Contract No: EP-W-09-002
WA #: 060-RICO-02MV

Region 2 RAC2
Remedial Action Contract

Draft Work Plan, Volume 1

Pierson's Creek Site

Remedial Investigation/ Feasibility Study

Newark, New Jersey

November 9, 2015

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CDM Smith

REMEDIAL ACTION CONTRACT 2
FOR REMEDIAL RESPONSE, ENFORCEMENT OVERSIGHT,
CRITICAL REMOVAL ACTIVITIES AT SITES OF RELEASE OR
THREATENED RELEASE OF HAZARDOUS SUBSTANCES
IN EPA REGION 2

DRAFT WORK PLAN
VOLUME 1

PIERSON'S CREEK SITE
REMEDIAL INVESTIGATION/ FEASIBILITY STUDY
NEWARK, NEW JERSEY
Work Assignment No. 060-RICO-02MV

U.S. EPA CONTRACT NO. EP-W-09-002
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Prepared for:
U.S. Environmental Protection Agency
290 Broadway
New York, New York 10007-1866

Prepared by:
CDM Federal Programs Corporation
14 Wall Street, Suite 1702
New York, New York 10005

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REMEDIAL ACTION CONTRACT 2
FOR REMEDIAL RESPONSE, ENFORCEMENT OVERSIGHT, CRITICAL REMOVAL ACTIVITIES AT SITES OF RELEASE OR THREATENED RELEASE OF HAZARDOUS SUBSTANCES IN EPA REGION 2

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Prepared by: _____ Date: 11/9/2015
Edward Leonard
Site Manager

Approved by: _____ Date: 11/9/15
Jeanne Litwin, PMP, REM
RAC2 Program Manager

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Acronyms and Abbreviations

CDM Smith	CDM Federal Programs Corporation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CO	contracting officer
COPC	chemical of potential concern
DPM	deputy program manager
DQM	data quality manager
EDD	electronic data deliverable
EPA	United States Environmental Protection Agency
FAM	finance and administration manager
FS	feasibility study
HRS	Hazard Ranking System
mg/kg	milligram per kilogram
NJDEP	New Jersey Department of Environmental Protection
NPL	National Priority List
OSWER	Office of Solid Waste and Emergency Response
PCB	polychlorinated biphenyl
PM	program manager
PO	project officer
PVSC	Passaic valley sewage commission
QA	quality assurance
QAPP	quality assurance project plan
QAS	quality assurance specialist
QC	quality control
QMP	Quality Management Plan
RAC	Remedial Action Contract
RACMIS	remedial action contract management information system
RI	remedial investigation
ROD	record of decision
RPM	remedial project manager
RQAC	regional quality assurance coordinator
SM	site manager
SOW	statement of work
WA	work assignment
WAM	work assignment manager
WWTP	wastewater treatment plant

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Section 1
Introduction

CDM Federal Programs Corporation (CDM Smith) received Work Assignment (WA) 060-RICO-02MV under Remedial Action Contract (RAC) 2 to develop a remedial investigation/feasibility study (RI/FS) Work Plan for the United States Environmental Protection Agency (EPA), Region 2 for the Pierson's Creek site located in Newark, Essex County, New Jersey. The overall purpose of this WA is to develop a Work Plan and associated planning documents to evaluate the nature and extent of contamination in various media as identified in the EPA Statement of Work (SOW).

Large amounts of data were previously collected at the Pierson's Creek site, primarily at the Troy Chemical Corporation (Troy Chemical) property, but also at nearby properties, during investigations conducted by various agencies during the period from 1977 to present. This Work Plan describes the activities required to collect, review, evaluate, and summarize the existing information and data, and prepare an existing data summary and data gap analysis report. Following review of the data summary and data gap analysis report by EPA and a technical meeting with EPA to discuss the Work Plan approach, an RI/FS Work Plan will be developed to gather complimentary data that, together with the existing data, will be sufficient to complete an RI/FS including human health and ecological risk assessments.

1.1 Site Description and History Summary

A brief description of the Pierson's Creek site and a brief site history are provided in the sections below.

1.1.1 Site Description

Pierson's Creek is an approximately 1.5-mile, man-made ditch located in a heavily industrialized section of Newark, New Jersey. Figure 1-1 shows the site location. The Creek has been used as an urban stormwater drainage structure for more than 100 years, and it continues to be a component of the City of Newark's stormwater management system. Historically (including at the time of mercury releases), Pierson's Creek surfaced from a 36-inch stormwater culvert just to the north of the Troy Chemical property and flowed in the concrete channel that bisects the Troy Chemical facility; an unnamed, intermittent tributary flowed along the eastern property boundary and joined Pierson's Creek just south of the facility. Due to a drainage improvement project completed in 2007, the perennial portion of Pierson's Creek now begins just south of the Troy Chemical facility, where it receives stormwater runoff from a large culvert as well as the concrete channel and east ditch on the Troy property.

Pierson's Creek flows from the Troy Chemical facility through a series of open channels and culverts, in a general south-southwesterly direction for approximately 1.5 miles to the Port Newark Channel portion of Newark Bay. The Creek exhibits signs of tidal influence from the bay, including water level fluctuations and flow reversal. Moving from Troy Chemical in the north to south, the creek flows through the former Red Star property (currently occupied by Continental Hardware), the vacant former Engelhard property, Conrail's Oak Island rail yard, and private

parking lots built on a former landfill within the Port of Newark. The creek flows through these properties for approximately 1 mile before being routed through culverts beneath Interstate 78, Newark International Airport, and New Jersey Turnpike.

Newark Bay is part of the New York-New Jersey Harbor Estuary, which also includes Upper New York Bay, Lower New York Bay, and Raritan Bay; the channels that connect the bays, including Arthur Kill/Pratt Creek, Kill Van Kull, and The Narrows; and the tidal portions of the Hackensack River, Passaic River, and other rivers. The surface water migration pathway for the Pierson's Creek site extends throughout the coastal tidal waters of Newark Bay, Arthur Kill, Kill Van Kull, Upper New York Bay, The Narrows, and into Lower New York Bay, in a series of arcs through the bays and lines through the channels.

Investigations by Troy Chemical, the New Jersey Department of Environmental Protection (NJDEP), and EPA have indicated significant increases in sediment mercury concentrations at and downstream of the facility compared to upstream sediment concentrations, as recently as 2010. In July 1979, EPA collected a sediment sample from Pierson's Creek just downstream of the mercury wastewater treatment system, and reported a mercury concentration of 22,400 milligrams per kilogram (mg/kg), compared to upstream concentrations of 140 and 191 mg/kg; EPA also reported mercury concentrations above background for samples collected downstream of the facility. The same report indicates a significant increase in water concentrations for benzene, which was a raw material at the Troy Chemical facility.

EPA conducted an investigation of Pierson's Creek in October 2012, which confirmed the observed release of mercury to the creek sediments. Mercury was detected in sediment samples collected throughout the accessible portions of the creek, and a site-attributable observed release is documented for a distance of approximately 0.25 mile downstream of the Troy Chemical facility. The affected area includes 0.15 mile of wetland frontage.

A number of metals which are hazardous substances under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), including arsenic, copper, lead, mercury, silver, and zinc, were detected at the site in the creek sediment and adjacent soils, at greatly elevated concentrations. Aroclor 1260 (Poly chlorinated biphenyl [PCB-1260]), a hazardous substance, has also been found at the site. Exposure to the various hazardous substances present at the site by direct contact, ingestion, or inhalation can cause a variety of adverse human health effects.

EPA placed the Pierson's Creek site on the National Priorities List (NPL) by publication in the Federal Register on September 16, 2014.

1.1.2 Site History

The Troy Chemical facility discharged mercury-bearing wastewaters directly to Pierson's Creek without treatment until 1965, when the facility's mercury pretreatment system was installed at the edge of the Creek. Discharges of mercury-bearing wastewaters to Pierson's Creek continued from 1965 to 1976, even after a sulfide precipitation pretreatment system was installed. In 1976, the facility connected to the Passaic Valley Sewerage Commission (PVSC) sewer system, and began diverting wastewater from the mercury pretreatment system to the facility waste water treatment plant (WWTP), where wastewaters were treated by settling, removal of suspended

solids and oil, and neutralization before subsequent discharge to the PVSC system. The additional levels of treatment at the WWTP did not remove all mercury from the process wastewater; the mercury contribution to PVSC as tested in 1979 was calculated to be approximately 327 pounds per day, and the facility discharged an average of more than 30,000 gallons per day of mercury-bearing wastewater to the PVSC sewer system for a 91-day period in 1986. The facility reported that it ceased the production of mercury-containing products that discharged to the sewer effluent as of February 1, 1987.

Other properties which may have discharged contaminants to Pierson's Creek include the former Prentiss Drug & Chemical Co. property, the former Albert Steel Drum Co. property, and the former Engelhard Corp. property now owned by 429 Delancy Associates LLC.

1.2 RI/FS Objectives

The overall purpose of the RI/FS is to select a remedy to eliminate, reduce, or control risks to human health and the environment at the Pierson's Creek site. This Work Plan provides the framework for collection, review, and evaluation of existing information and data for the Pierson's Creek site. The information and data obtained will be used to support the RI/FS. The objectives of this Work Plan are as follows:

- Collect, review, and evaluate existing studies, investigations, and regulatory documents associated with the Pierson's Creek site, including those associated with the Troy Chemical property and nearby properties.
- Prepare an existing data summary report summarizing the existing information and data relevant to the Pierson's Creek site, including an analysis of gaps in the existing data.
- Based on the existing data summary and data gap analysis report, develop and present to EPA for review and comment, the proposed technical approach to the RI/FS Work Plan including RI/ FS activities designed to fill gaps identified in the existing data.

Following EPA's review and approval of the technical approach, a separate RI/FS Work Plan will be developed to collect data needed to prepare the RI Report, FS, and human health and ecological risk assessments and to support a Record of Decision (ROD) for the site.

1.3 Work Plan Content

This Work Plan contains three sections as described below.

- Section 1 – Introduction: Presents a brief description of the site, the Work Plan objectives, and format of the Work Plan.
- Section 2 – Work Plan Approach: Presents an overview of the technical approach to development of the Work Plan, the project schedule, project management plan, and quality assurance (QA) and document control.
- Section 3 – Task Plans: Presents the specific activities that will be performed and describes the reports and other deliverables that will be prepared and submitted to EPA.

For presentation purposes, figures and tables are presented at the end of this Work Plan.

Section 2

Work Plan Approach

2.1 Technical Approach to the RI/FS

CDM Smith has developed the technical approach described in this Work Plan in accordance with the EPA SOW and to ensure that all work and submittals meet the requirements of the following documents and policies:

- CERCLA, as amended
- Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, EPA/540/G-89/004, Office of Solid Waste and Emergency Response (OSWER) Directive 9355.3-01 (EPA 1988)
- Other applicable federal, state, and local requirements

CDM Smith has performed a preliminary review of existing data and documents provided by EPA including the Hazard Ranking System (HRS) Documentation Record and associated references, the Proposed Remedial Approach Report prepared for the Troy Chemical facility, dated September 2015, and other documents provided by EPA.

The NJDEP Technical Coordinator for the Troy Chemical facility and Pierson's Creek site and the NJDEP Chief Records Custodian have been contacted to assess the quantity of records, reports, and data available from NJDEP for the Pierson's Creek Site, the Troy Chemical facility, and nearby properties. Based on a preliminary assessment of NJDEP documents, there are an estimated 60 file boxes of paper files that NJDEP has available for review. Electronic files of more recent documents are also available for review.

The City of Newark Engineering Office has documents related to the historical re-routing of Pierson's Creek to address flooding issues and historical dredging that occurred in the Creek.

Based on the information currently available, a preliminary list of relevant reports and documents was prepared to gain an understanding of the extent of the existing information that needs to be collected, reviewed, and evaluated to meet the overall objectives described in Section 1.2. A detailed description of the information and data that will be collected, reviewed, and evaluated is provided in Section 3.1.6.

2.2 Project Organization

The proposed project organization is shown in Figure 2-1.

2.3 Quality Assurance

All CDM Smith work on this WA will be performed in accordance with the CDM Smith RAC2 Quality Management Plan (QMP) (CDM Smith 2012). Evaluation of the existing data will be performed in accordance with EPA's policies for non-direct measurements. The RAC2 quality

assurance specialist (QAS) will maintain QA oversight for the duration of the WA. A CDM Smith QAS has reviewed this Work Plan for QA requirements.

The CDM Smith site manager (SM) is responsible for implementing appropriate quality control (QC) measures on this WA. Such QC responsibilities include:

- Implementing the QC requirements referenced or defined in this Work Plan
- Adhering to the CDM Smith RAC Management Information System (RACMIS) document control system
- Organizing and maintaining WA files
- Conducting planning meetings, as needed, in accordance with the RAC2 QMP

Technical and QA review requirements as stated in the QMP will be followed on this WA.

Document control aspects of the program pertain to controlling and filing documents. CDM Smith has developed a program filing system that conforms to EPA's requirements to ensure that the documents are properly stored and filed. This system will be implemented to control and file all documents associated with this WA. The system includes document receipt control procedures, a file review, an inspection system, and file security measures.

2.4 Project Schedule

A project schedule is included as Table 2-1. The project schedule assumes the provision of adequate funding and timely review of documents by EPA.

2.5 General Requirements

General requirements include those relating to sustainable (or green) remediation, project data management, and record-keeping, as described in the following sections.

2.5.1 Green Remediation

Green remediation is the practice of considering all environmental effects of the implementation of a remedy and incorporating options to maximize the net environmental benefit of cleanup actions. In accordance with EPA's strategic plan for compliance and environmental stewardship, EPA strives for cleanup programs that use natural resources and energy efficiently, reduce negative impacts on the environment, minimize or eliminate pollution at its source, and reduce waste to the maximum extent possible. EPA's Region 2 Superfund program supports the adoption of "green site assessment and remediation," which is defined as the practice of considering all environmental impacts of studies, selection, and implementation of a given remedy, and incorporating strategies to maximize the net environmental benefit of cleanup actions (see http://www.clu-in.org/greenremediation). In addition, EPA established a "Clean & Green" policy to enhance the environmental benefits of Superfund cleanups by promoting technologies and practices that are sustainable.

To the extent practicable, CDM Smith will explore and implement green remediation strategies and applications in the performance of the requirements of this WA to maximize sustainability,

reduce energy usage, promote carbon neutrality, promote industrial materials reuse and recycling, and protect and preserve land resources.

CDM Smith will maintain records of "green-related" activities, and report this information to EPA in its monthly progress reports or as requested by EPA.

2.5.2 Project Data Management

No field or analytical data will be generated by the activities to be performed under this Work Plan. However, existing analytical data files will be identified, obtained, stored, and managed. Data evaluation will include review of existing data for use in the RI, FS, and risk assessments. Existing electronic data files will be stored and managed so that the data will be available for review, analysis, and reporting. Only data that have been validated and are of known quality will be considered usable in the RI/FS. Data that have not been validated or that are of unknown quality will be maintained as data files in their native format, such as Excel files. Data on paper will be stored and managed using CDM Smith's project filing system.

The key data management roles on the project include the SM, the data manager (DM), project staff, and the data coordinator. The SM and DM work together to ensure that data management is conducted in a timely and efficient manner and that proper QA/QC procedures are followed. The data coordinator is responsible for verifying that any electronic data deliverables (EDDs) obtained comply with EPA Region 2 requirements, are properly stored, and are suitable for reporting purposes.

Region 2 EDD guidance and requirements documents that CDM Smith will follow include the Electronic Data Deliverable Valid Values Reference Manual and tables (EPA 2014b) and the Basic Manual for Historic Electronic Data (EPA 2012).

2.5.3 Record-Keeping Requirements

CDM Smith will maintain all technical and financial records for this WA in accordance with the requirements of the SOW and the technical direction of the EPA remedial project manager (RPM). These technical and financial records will be in sufficient detail to support decisions made during this RI/FS. At the completion of the WA, CDM Smith will submit three bound copies of the official record of the work and one copy of the major deliverables in electronic format to the EPA RPM, with one copy to the EPA records manager.

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Section 3

Task Plans

3.1 Task 1 – Project Planning and Support

The tasks identified in this section correspond to EPA's SOW for the site, dated August 21, 2015. As discussed with EPA in the technical scoping meeting on September 28, 2015, only applicable activities under Task 1 of the EPA SOW are included in this Work Plan. The task presentation order and numbering sequence correspond to the work breakdown structure provided in EPA's SOW.

3.1.1 Project Administration

CDM Smith will provide the following project administration support in the performance of this WA.

The SM will:

- Prepare the technical monthly report
- Review weekly financial reports
- Review and update the schedule
- Communicate weekly with the EPA RPM
- Prepare staffing plans

The Program Support Office (PSO) personnel will:

- Review WA technical/financial status reports
- Prepare monthly progress reports
- Manage technical resources
- Review the WA budget
- Respond to questions from the EPA project officer (PO) and contracting officer (CO)
- Prepare monthly invoices

3.1.2 Attend Scoping Meeting

The SM, program manager (PM), deputy program manager (DPM), and finance and administration manager (FAM) attended a scoping meeting at the EPA Region 2 office in New York City on September 28, 2015. Meeting minutes were prepared and submitted to EPA on October 6, 2015.

3.1.3 Conduct Site Visit

An initial site visit will be performed by EPA and CDM Smith to become familiar with the site and surrounding area and nearby facilities potentially related to the Pierson's Creek site. The site visit will include visual observation of site conditions and current uses of surrounding and nearby properties. It is anticipated that the initial site visit will be conducted after existing information has been obtained and the review of historical information is underway.

3.1.4 Develop Draft Work Plan and Associated Cost Estimate

CDM Smith has prepared this Draft Work Plan in accordance with the contract terms and conditions. CDM Smith used existing site data and information, information from EPA guidance documents (as appropriate), and direction provided by the EPA RPM during the scoping meeting as the basis for preparing this Work Plan. The Work Plan includes CDM Smith's technical approach for each task to be performed; a description of the work products that will be submitted to EPA; a proposed project schedule; and a list of key personnel performing work on the project. The Work Plan budget contains a detailed cost breakdown, by subtask, of the direct labor costs, other direct costs, projected base fee and award fee, and all other specific cost elements required for performance of each of the subtasks included in the SOW. The Work Plan budget includes a cost estimate for development of two Work Plans as described below. At this time, volume 2 will be prepared only for Work Plan 1.

<u>Data Evaluation and Technical Approach Work Plan (Work Plan 1)</u>
This Work Plan addresses the SOW tasks needed to collect, review, and evaluate existing data; prepare a data summary and data gap analysis report, and develop the technical approach to the RI/FS Work Plan as described in Section 1.2 – RI/FS Objectives.

<u>RI/FS Work Plan (Work Plan 2)</u>
Following collection, review and evaluation of existing data described above for Work Plan 1, a RI/FS Work Plan (Work Plan 2 - Task 1 items not addressed in Work Plan 1 and Tasks 2 through 14 of the EPA SOW) will be developed based on the technical approach developed under Work Plan 1. The RI/FS Work Plan will provide the details of all of the RI/FS field investigation activities needed to fill the data gaps identified under Work Plan 1 (described above).

3.1.5 Negotiate and Revise Draft Work Plan/Budget

CDM Smith personnel will attend Work Plan negotiation meetings at EPA's direction. EPA and CDM Smith personnel will discuss and agree upon the final technical approach and costs required to accomplish the tasks detailed in the Work Plans. CDM Smith will submit negotiated Work Plans and budgets incorporating the agreements made in the negotiation meetings.

3.1.6 Evaluate Existing Data and Documents

As part of the preparation of this Work Plan, an initial review of documents provided by EPA was performed to develop a preliminary list of existing documents and data to be collected, reviewed, and evaluated. The initial review indicated that a significant quantity of existing documents and data, dating from 1977 to the present, will need to be obtained and reviewed to support development of the RI/FS Work Plan. The sections below describe the activities that will be performed to obtain, review, and evaluate existing data and documents for the Pierson's Creek

Site, including the Troy Chemical Co. facility and nearby facilities, and to prepare an existing data summary and data gap analysis report.

Obtain, Review, and Evaluate Existing Data and Documents

Existing documents will be obtained, reviewed, and evaluated for the Troy Chemical facility and nearby properties as outlined below.

Troy Chemical Corp. Facility

Thirteen major reports were prepared by various consultants for Troy Chemical during the period from 1994 to 2015. These reports, which are listed below, will be obtained, reviewed, and summarized in the existing data summary and data gap analysis report.

- 1994 – Remedial Investigation/Remedial Alternative Analysis, prepared by Wehran Envirotech. April.
- 1998 – Remedial Investigation Report, prepared by EMCON, February.
- 2000 – Remedial Investigation Report for Additional Soil and Groundwater Sampling and Remedial Action Selection Report for Soil, prepared by ELM. September 27.
- 2000 – Remedial Action Selection Report and Remedial Action Work Plan, prepared by ELM. May 22.
- 2004 – Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan, prepared by ELM. March 30.
- 2005 – Pre-Design Investigation Report - Remedial Investigation Report Amendment and Remedial Action Work Plan Amendment, prepared by ELM. May 3.
- 2007 – Remedial Action Progress Report, prepared by ELM. February 9.
- 2010 – Remedial Action Progress Reports, prepared by ELM. August.
- 2010 – Remedial Investigation Report for Sediment and Surface Water, prepared by ELM. July 21.
- 2012 – Self-Implementing PCB Cleanup and Disposal Plan, prepared by ELM. February 29.
- 2013 – "Status of Remediation of Concrete-Lined Storm Water Ditch, prepared by ELM. September 23.
- 2013 – Summary of Vapor Intrusion Evaluation, prepared by ELM. July 2.
- 2015 – Proposed Remedial Approach Report, Troy Chemical Corporation, prepared by Geosyntec. September.

In addition to the reports listed above, discussions with the NJDEP Technical Coordinator for the Troy Chemical facility and the NJDEP Chief Records Custodian indicate that there are at least 20 boxes of files for Troy Chemical.

Nearby Sites/Facilities

In addition to the Troy Chemical facility, NJDEP files are available for a number of nearby sites and facilities that potentially impacted Pierson's Creek. NJDEP has approximately 40 boxes of files for the nearby facilities listed below. Files for these sites will be searched and relevant reports and documents will be identified and obtained for review and evaluation.

- Albert Steel Drum/Prentiss Drug and Chemical Co.
- Continental Hardware/Red Star
- Engelhard Steel/429 Delancy Association
- Manischewitz Co.
- Welch/Holme and Clark
- Global Metals

City of Newark Engineering Office

The City of Newark Engineering Office will be contacted to obtain information related to re-routing of Pierson's Creek to address flooding issues and past dredging activities that reportedly occurred at the Creek. CDM Smith will request copies of relevant engineering plans, reports, and drawings associated with past re-routing and dredging of Pierson's Creek and the current configuration of the Creek.

Existing Analytical Data

Existing analytical data will be obtained and a preliminary reviewed of the data will be performed for potential use in the RI/FS or for use as background data to support development of the RI/FS work plan. Analytical data that has been collected under an EPA-approved QAPP and validated in accordance with an EPA-approved QAPP will be evaluated for use in the RI/FS. Available analytical data that has not been collected under and EPA-approved QAPP will be obtained, reviewed, and used to support development of the RI/FS Work Plan.

To date, the following data have been obtained and will be evaluated for use in the RI/FS:

- Data collected to support the Hazard Ranking System (Weston Solutions, Inc., 2013)
- Data collected as part of the Newark Bay Investigation (Tierra Solutions, Inc., 2007)
- Data collected by 429 Delancy Associates, LLC (Matrix New World Engineering, 2006 to 2015)

Additional analytical data files identified during file searches will also be reviewed. Data considered usable in the RI/FS will be identified in the existing data summary and data gap analysis report described below.

Review Geosyntec, Inc. Report for the Troy Chemical Site

As requested by EPA, CDM Smith will review and submit technical review comments to EPA on the report titled: "Proposed Remedial Approach Report, Troy Chemical Corporation Facility, prepared for the Troy Chemical Corporation by Geosyntec Consultants, September 2015".

Existing Data Summary and Data Gap Analysis Report

CDM Smith will evaluate and present results of the existing data evaluation in a draft existing data summary and data gap analysis report. The report will include a summary and evaluation of existing information and data collected and an analysis of gaps in the existing data. Following submittal of the report, a technical approach meeting will be arranged with EPA to discuss the report and present the technical approach to the RI/FS work plan based on the data gaps identified in the report. Following the technical approach meeting, a final report will be prepared incorporating EPA comments and discussions at the meeting.

3.1.10 Meetings

Per the EPA SOW, CDM Smith will participate in 8 meetings during the course of the RI/FS. It is assumed that that the meetings will be held at EPA's Region 2 Office in New York City and that two people from CDM Smith will attend each meeting. Meeting minutes will be prepared and submitted to EPA work assignment manager (WAM) within 5 days after each meeting.

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Section 4

References

CDM Federal Programs Corporation (CDM Smith). 2012. Region 2 RAC2 Quality Management Plan – Revision 2. October 11.

United States Environmental Protection Agency (EPA). 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA. EPA/540/G-89/004. Office of Solid Waste and Emergency Response (OSWER) Directive 9355.3-01. October.

_____. 2012. Basic Manual for Historic Electronic Data, Version 3.0. August.

_____. 2013. Hazard Ranking System (HRS) Documentation Record, Pierson's Creek. December.

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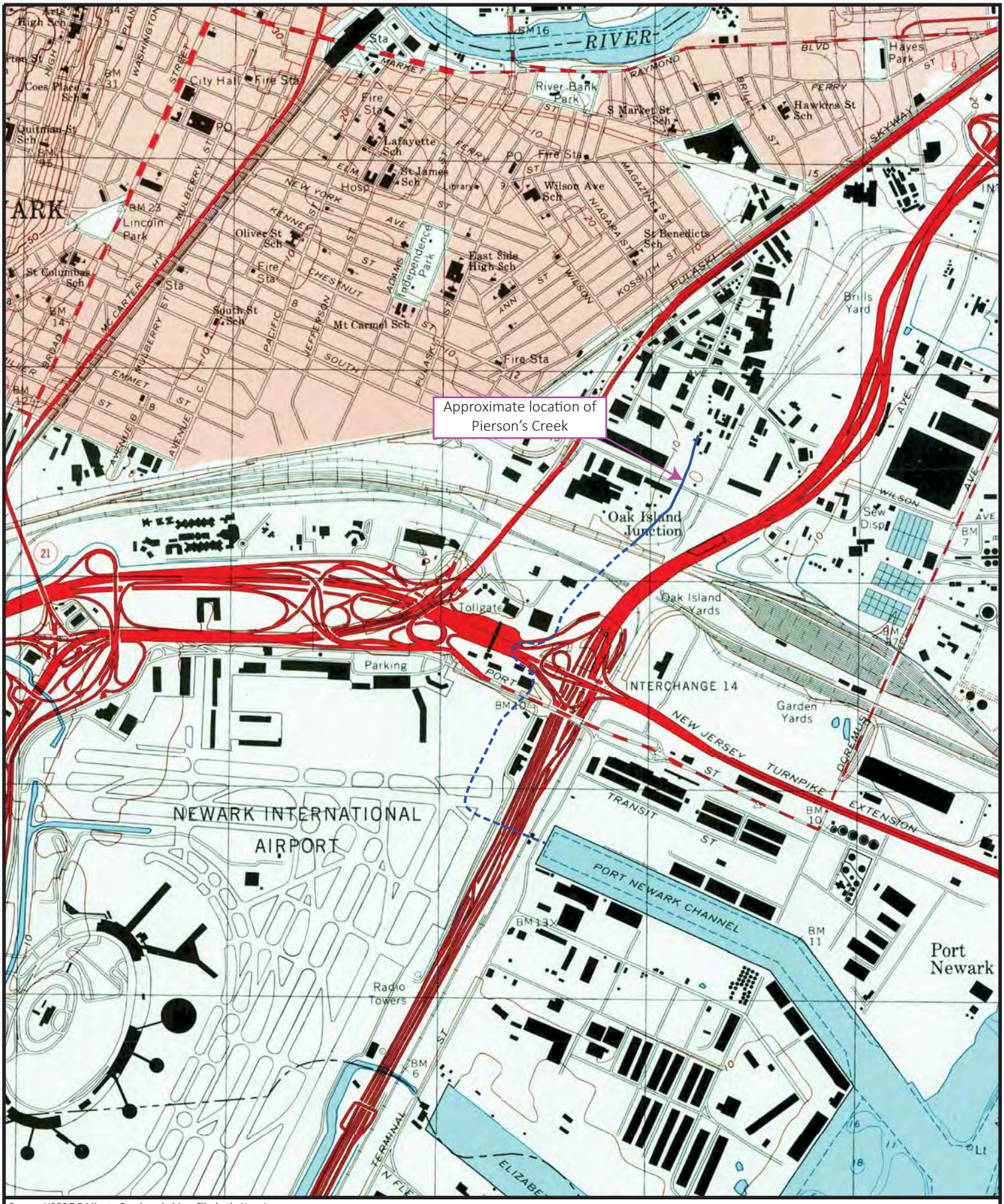
Figures



Source: USGS 7.5 Minute Quadrangle Map, Elizabeth, New Jersey

Aboveground portion of Pierson's Creek

Underground portion of Pierson's Creek

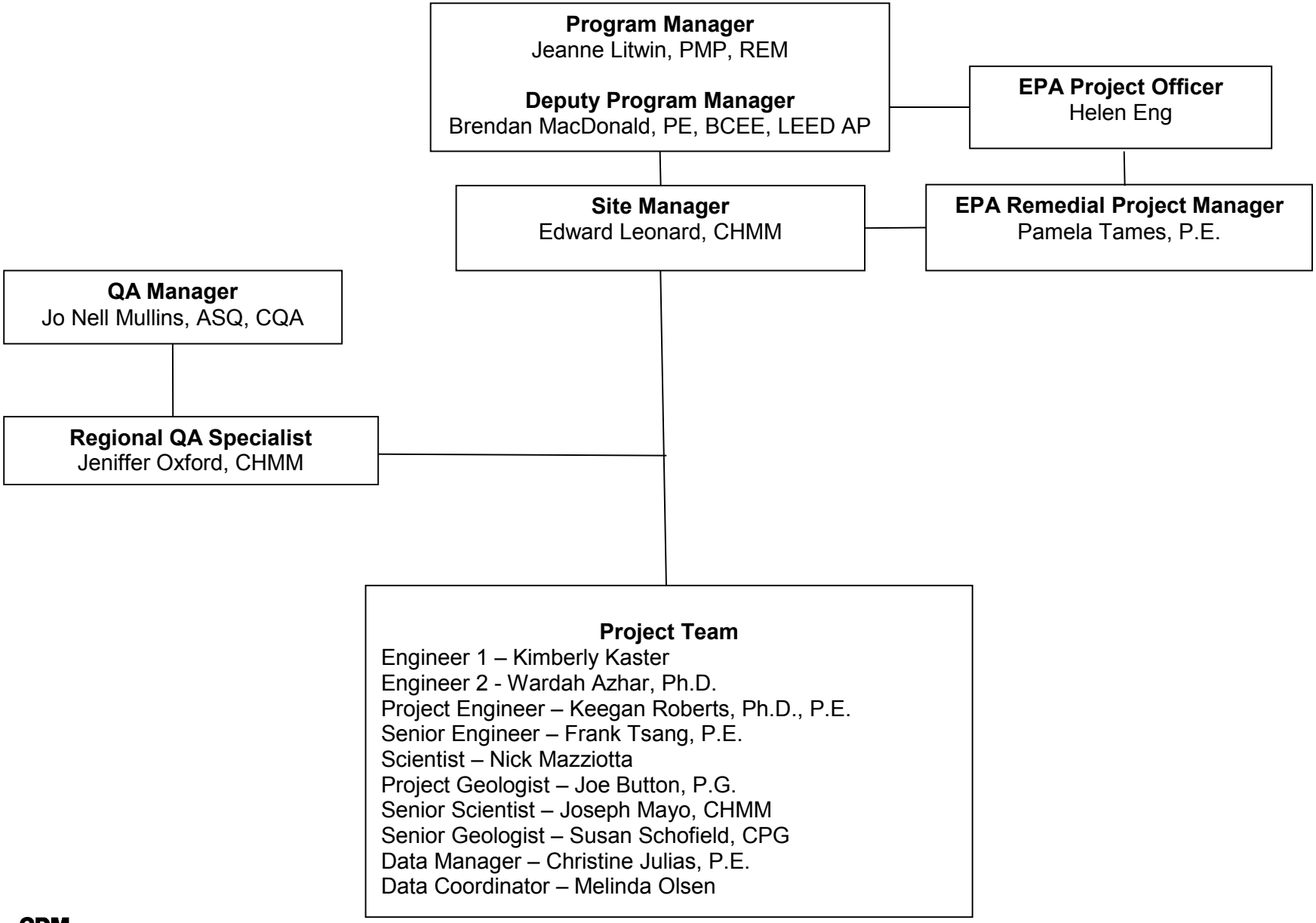
N

0 1,000 2,000 3,000 Feet

CDM Smith

Figure 1-1
Site Location
Pierson's Creek
Newark, New Jersey

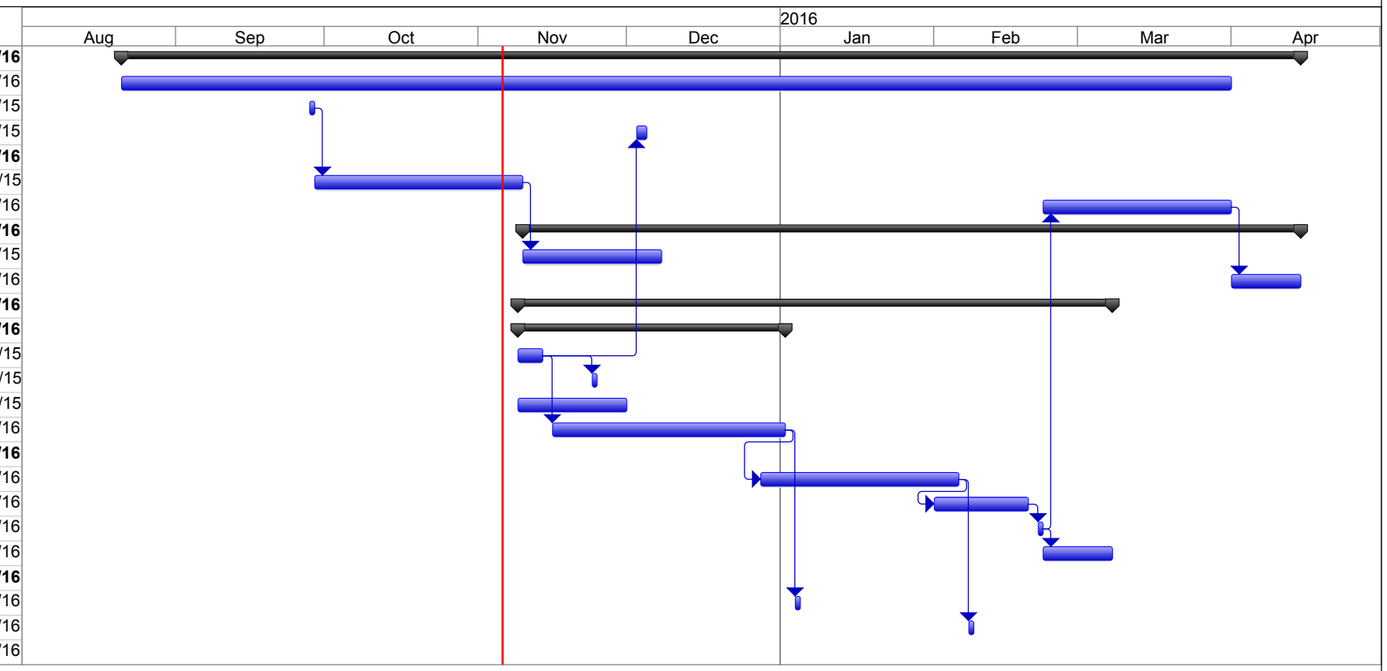
Figure 2-1
Pierson's Creek Site RI/FS
Project Organizational Chart



CDM Smith

Figure 2-2
Task 1 Schedule
Pierson's Creek Site

ID	Task Name	Duration	Start	Finish
1	**Task 1 Activities**	**170 days**	**Fri 8/21/15**	**Thu 4/14/16**
2	1.1 Project administration	160 days	Fri 8/21/15	Thu 3/31/16
3	1.2 Scoping meeting	1 day	Mon 9/28/15	Mon 9/28/15
4	1.3 Conduct site visit	2 days	Thu 12/3/15	Fri 12/4/15
5	**1.4 Prepare draft work plan and cost estimate**	**133 days**	**Tue 9/29/15**	**Thu 3/31/16**
6	Prepare/submit work plan 1 (volumes 1 & 2)	30 days	Tue 9/29/15	Mon 11/9/15
7	Prepare/submit work plan 2 (volume 1)	28 days	Tue 2/23/16	Thu 3/31/16
8	**1.5 Negotiate and prepare final work plan and budget**	**113 days**	**Tue 11/10/15**	**Thu 4/14/16**
9	Negotiate/submit final work plan 1 (volumes 1 & 2)	20 days	Tue 11/10/15	Mon 12/7/15
10	Prepare/submit final work plan 2 (volume 1)	10 days	Fri 4/1/16	Thu 4/14/16
11	**1.6 Evaluate existing data and documents**	**86 days**	**Mon 11/9/15**	**Mon 3/7/16**
12	**1.6.1 Obtain, review and evaluate existing documents and data**	**40 days**	**Mon 11/9/15**	**Fri 1/1/16**
13	Obtain files/documents from NJDEP	5 days	Mon 11/9/15	Fri 11/13/15
14	Obtain files/documents from City of Newark	1 day	Tue 11/24/15	Tue 11/24/15
15	Technical review comments - Geosyntec report	16 days	Mon 11/9/15	Mon 11/30/15
16	Review and evaluate existing documents	35 days	Mon 11/16/15	Fri 1/1/16
17	**1.6.2 Exsiting data summary and data gap analysis**	**58 days**	**Thu 12/17/15**	**Mon 3/7/16**
18	Draft exsiting data summary and data gap analysis report	30 days	Mon 12/28/15	Fri 2/5/16
19	Develop technical approach for the RI/FS	15 days	Mon 2/1/16	Fri 2/19/16
20	RI/FS technical approach meeting	1 day	Mon 2/22/16	Mon 2/22/16
21	Final exsiting data summary and data gap analysis report	10 days	Tue 2/23/16	Mon 3/7/16
22	**1.9 Meetings**	**33 days**	**Thu 12/24/15**	**Mon 2/8/16**
23	Meeting 1 - Discuss review of exisitng documents	1 day	Mon 1/4/16	Mon 1/4/16
24	Meeting 2 - Discuss draft data summary and data gap analysis report	1 day	Mon 2/8/16	Mon 2/8/16
25	Meetings 3 through 8 (To be determined)	0 days	Mon 2/8/16	Mon 2/8/16



Date: Fri 11/6/15
Pierson's Creek_ Draft Task 1 Schedu