

# Contaminated Soil Handling and Engineered Barrier Management Plan

Proposed Park 553  
Chicago Park District  
2800 South Sacramento Avenue  
Chicago, Cook County, Illinois

October 14, 2013  
Terracon Project No. A2127016

Prepared for:  
SmithGroupJJR  
Chicago, Illinois

Prepared by:  
Terracon Consultants, Inc.  
Naperville, Illinois

Offices Nationwide  
Employee-Owned

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# Terracon

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

October 14, 2013

Mr. Dan Cooper  
Chicago Park District  
541 North Fairbanks Court  
Chicago, Illinois 60611

Re: Contaminated Soil Handling and Engineered Barrier Management Plan  
Proposed CPD Park 553  
2800 South Sacramento Street  
Chicago, Cook County, Illinois  
Terracon Project No.: A2127016

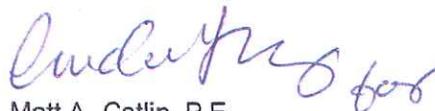
Dear Mr. Cooper:

Terracon Consultants, Inc. (Terracon) is pleased to submit this Contaminated Soil Handling and Engineered Barrier Management Plan (Plan) for the Proposed Chicago Park District Park 553 Facility located at 2800 South Sacramento Avenue, Chicago, Illinois. The Plan proposes soil management methods for work conducted within and below the existing cap during construction of the proposed park.

Sincerely,  
Terracon Consultants, Inc.



Matthew Weiss, P.G.  
Project Manager



Matt A. Catlin, P.E.  
Senior Principal

Copies to: Mr. Steffan Schoenaur, CPD  
Mr. Paul Wiese, SmithGroupJJR

Terracon Consultants, Inc. 135 Ambassador Drive Naperville, Illinois 60540  
P [630] 717 4263 F [630] 357 9489 terracon.com



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ACRONYMS AND ABBREVIATIONS



35 IAC	Title 35 Illinois Administrative Code
AST	Aboveground Storage Tank
bgs	below ground surface
City	The City of Chicago
CPD	Chicago Park District
cm	centimeter(s)
C <sub>sat</sub>	Soil Saturation Limit
CWS	Community Water Supply
ESA	Environmental Site Assessment
ESC	Environmental Science Corporation
eV	electron-volt
f <sub>oc</sub>	Organic Carbon Content
g	gram(s)
GRO	Groundwater Remediation Objective
IEPA	Illinois Environmental Protection Agency
IPCB	Illinois Pollution Control Board
ISGS	Illinois State Geological Survey
ISWS	Illinois State Water Survey
kg	kilogram(s)
L	liter(s)
mg	milligram(s)
mL	milliliter(s)
N/A	Not Applicable
NFR	No Further Remediation
OSHA	Occupational Safety and Health Administration
OSE	IEPA Office of Site Evaluation
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PEL	Permissible Exposure Limit
PID	Photoionization Detector
PIN	Property Index Number
ppm	part(s) per million
PVC	Polyvinyl Chloride
PWS	Public Water Supply
RA	Remedial Applicant
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RO	Remediation Objective
sec	second(s)
SPLP	Synthetic Precipitation Leaching Procedure
SRO	Soil Remediation Objective
SSL	Soil Screening Level
SWPPP	Storm Water Pollution Prevention Plan
SVOC	Semi-volatile Organic Compound
SWAP	Source Water Assessment Program
TACO	Tiered Approach to Corrective Action Objectives
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound
yr	year(s)

**CONTAMINATED SOIL HANDLING AND ENGINEERED  
BARRIER MANAGEMENT PLAN  
PROPOSED PARK 553  
2800 SOUTH SACRAMENTO AVENUE  
CHICAGO, COOK COUNTY, ILLINOIS**

**Project No. A2127016  
October 14, 2013**

## **1.0 INTRODUCTION**

This document was prepared to address soil management during redevelopment of an approximate 24-acre property located at 2800 South Sacramento Avenue, Chicago, Cook County, Illinois (the site). The site is being re-developed by the Chicago Park District (Park District) into a recreational park and sports complex for the Little Village and surrounding community. Development activities will include construction of athletic fields, landscaped park areas, walkways and paved parking. A Topographic Map of the project vicinity is included as Exhibit 1 in Appendix A. A diagram depicting the existing site features is included as Exhibit 2.

## **2.0 PURPOSE**

The purpose of this Contaminated Soil Handling and Engineered Barrier Management Plan (Plan) is to provide contractors contaminant documentation for the site, requirements for handling contaminated soils and requirements for soil barrier management. Contractors are responsible for conducting site work in accordance with the specifications outlined in this Plan and under the oversight of the Park District or the Park District's Representative. Deviations from the construction specifications must be approved by the Park District in writing prior to construction.

The Plan is not intended for direct, unmodified use by contractors for health and safety. Rather, the Plan provides documentation of previous site investigations. Contractors are responsible for creating and administering their own site specific health and safety plans based on their worker safety programs. Each employer is responsible for the health and safety of its own workers.

### 3.0 SITE HISTORY

The USEPA administrative record for the site indicates that the site has been developed with commercial and industrial structures since at least 1911. Historical site use included the manufacturing of asphalt roofing products from at least 1918 until approximately 1982. Former site structures included a large warehouse, storage sheds, an enclosed tank area that housed 35 storage tanks, an office building and an asphalt mixing plant. Operations of these facilities resulted in contamination at the site specifically related to coal tar distillation that produced refined tars, pitch, oil, creosote, naphthalene, coal tar paints, enamels, pipe coating, and driveway sealer. The historical buildings were removed from the site between approximately 1991 and 1994.

Previous environmental site assessment activities were conducted by various entities from 1991 to 2010. These assessments have identified environmental impacts resulting from historical activities at the property including volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs) at concentrations exceeding the Tiered Approach to Corrective Action Objectives (TACO) Residential Tier 1 Remediation Objectives (ROs) outlined in Title 35 of the Illinois Administrative Code (IAC) Part 742 (35 IAC 742).

An Administrative Order on Consent (AOC) between Allied Signal, Inc. (now Honeywell Inc.) and Celotex (Respondents) and the United States Environmental Protection Agency (USEPA) was entered into in November 1996 to address contamination at the property. The USEPA recommended in an Enforcement Action Memorandum dated March 7, 2005, that the site be covered with a 24-inch minimum thickness gravel cap (existing cap) over the 24-acre property. The USEPA entered an Administrative Settlement Agreement with Honeywell International Inc. (Respondent) dated August 16, 2006. Remedial action at the property was completed in September of 2009 and approved by the USEPA in a Letter of Completion dated January 22, 2012. Documents related to the final stage of investigation at the site and remedial action construction from the USEPA administrative record are provided in Appendix B.

As described in the Main Site Cover Construction Completion Report prepared by CH2M Hill in January 2010 (CH2M Hill, 2010), existing site grade is approximately 8-10 feet above the surrounding grade. The material above surrounding street grade is composed of the following layers from bottom to top (CH2M Hill, 2010):

- Clay material generated during a construction project at the Metropolitan Water Reclamation District of Greater Chicago wastewater treatment plant in Stickney, Illinois, between 1993 and 1996 (Referred to as "Cover").
- Fill material consisting of, miscellaneous soil from other sources, including possibly soil material from a construction project at the Cook County Jail. This material was apparently placed by the Celotex Corporation between 1993 and 1996 (Referred to as "Fill").

- Silty sandy gravel [CA-6 and/or CA-1] with cobbles up to approximately three inches in diameter, installed in part by 2002 with minimum 2-foot thick cover site-wide completed in 2009 (Referred to as “existing cap”).

The property was purchased by the City of Chicago (City) and transferred to the Park District in 2012. As part of the property purchase the City and the Park District entered into a Covenant Not to Sue with the USEPA stating that the City and CPD would develop the property into a public park within seven years from the purchase date. Proposed site development activities include limited cuts for public access to the park, utility installation and foundation construction, which may expose on-site construction workers to residual chemical impact.

#### 4.0 SITE CONTAMINANTS

The results of environmental assessments performed at the site have identified VOCs and PAHs above Tier 1 ROs. Specific construction activities including excavation for utility trenches and various deep foundations at the site will require soils below the existing cap be properly managed. Concentrations of contaminants within the impacted fill and cover soils below the existing cap were summarized in the U.S. EPA Enforcement Action Memorandum dated March 7, 2005. Generally, concentrations of VOCs were highest in the southwest area of the site in the six inch interval below the existing cap. High concentrations of VOCs were also identified within the central area of the site at deeper intervals. Concentrations of PAHs (in benzo(a)pyrene equivalents) were generally highest in the northern and southern areas of the site in the six inch interval below the existing cap. Similar to VOCs, concentrations of PAHs generally increase with depth. The concentrations from the March 2005 USEPA Memorandum are provided in Table 4-1.

Table 4-1 Summary of Contaminant Concentrations below Existing Cap from USEPA Memorandum dated March 7, 2005

Contaminant	Depth Range (ft below existing cap)	Contaminant Concentration Range*
VOCs	0-0.5	0-83 ppm
	8-18	Up to 862 ppm
PAHs	0-0.5	Up to 139 ppm
	1-2	Up to 421 ppm
	8-10	Up to 3,236 ppm

\*VOCs in parts per million (ppm); PAHs in ppm benzo(a)pyrene equivalents

This Plan is based upon data obtained from the various aforementioned environmental reports provided to Terracon. The Plan does not reflect any variations in subsurface stratigraphy that may occur between sample locations or across the site. Actual subsurface conditions may vary. The extent of such variations may not become evident without additional exploration.

## 5.0 GENERAL CONSTRUCTION REQUIREMENTS

This section provides general requirements for construction activities at the site. Based on the identification of contamination at the site construction will require procedures above and beyond construction projects at uncontaminated sites. The Plan recognizes that construction will disturb contaminated soils at the site and that planned or yet unknown construction activities might expose workers to the chemicals identified in soils. Site work shall only be conducted within or below the existing cap under the direct field oversight of the Park District or their representative. Furthermore, work within or below the existing cap shall be limited to those areas identified in Appendix D.

Prior environmental investigations conducted at the site did not include every possible chemical and no testing and analysis program can test everywhere. Unknown conditions could occur between testing locations. The primary concern is in maintaining the integrity of the protective barriers applied above the impacted soils. All site work where the existing cap will be impacted shall be done under the oversight of the Park District or their representative.

### 5.1 Contractor Qualifications

The contractor shall have the following qualifications for conducting work described in this document:

- Work shall be conducted under the supervision of an Illinois licensed professional engineer (PE)
- Experience with environmental oversight
- Experience with at least 3 different projects involving USEPA or IEPA where regulated engineered barriers were used to cap contaminated soils during redevelopment at former industrial properties.

### 5.2 Health and Safety

Each contractor shall develop and their employees shall conform to a site specific health and safety plan (HASP) for submission to the Park District for approval prior to mobilization. These HASPs shall include, at a minimum, the names and key personnel responsible for site safety, risks associated with each operation conducted, appropriate personnel training, personal protective equipment (PPE), site-specific medical surveillance requirements. The HASP section that discusses risks associated with operations should reference permissible exposure limits (PELs) for the contaminants historically detected at the site and outline procedures for addressing worker health and safety.

The HASP shall also contain information for contingencies related to the safe and effective responses to emergencies. The contingency section shall include site control measures and personnel responsibilities in the event of an emergency.

### **5.3 Routine Control**

Earthwork and other necessary construction shall be planned to minimize disturbance of the existing cap and contaminated soils. When the existing cap is disturbed during construction, it shall be reconstructed with a minimum thickness of two feet of clean CA-6 (referred to as "proposed cap") consistent with the construction specifications. The worker or contractor must have a physical method of measuring and monitoring horizontal and vertical control when disturbing the existing cap on the site. Special care shall be taken to preserve the existing cap above the impacted soils.

### **5.4 Dust Control Measures**

The contractor shall prepare a Dust Control Plan (DCP) for work conducted at the site for review and approval. The DCP shall include continuous dust monitoring (i.e. fugitive emissions) during site work within or below the existing cap. At a minimum, monitoring shall include one monitoring location in each cardinal direction at the site boundary. Within each working excavation area at least one upwind monitoring location and two downwind monitoring locations shall be stationed at all times. Dust levels shall be recorded at least every minute using meters equipped with real-time data displays.

The contractor shall record dust values on a daily basis and provide a weekly summary to the Park District or their designated representative. Weekly dust data should be compared to numeric standards developed by the contractor consistent with a no visible emissions standard and the contractor's health and safety plan. If the no visible emissions standard is exceeded all work at the site shall be suspended immediately and the contractor shall be subject to a minimum fine of \$10,000 per occurrence. Prior to resuming site work the contracting company's president or chief executive office shall report to the Park District office for compliance with this Plan and the contractor's contaminated soil handling procedures. The contractor is responsible for completing work in the allotted time frame with no allowances for emissions standard work stoppages.

The DCP shall include methods to achieve no visible emissions that may include, but are not limited to, a site equipment speed limit to reduce dust generation, and/or low tipping of excavated loads. Use of a water spray unit to dampen surface materials should be considered if visible dusts are generated during excavation and soil movement. If water spraying is used, construction personnel shall avoid over-spraying the area to prevent run-off and mud-slick work surfaces.

## 5.5 Environmental Monitoring

The contractor shall conduct air monitoring in the vicinity of any excavation into the existing cap. At a minimum air monitoring shall be conducted with an instrument such as a photoionization detector (PID), flame ionization detector (FID), or other instrument capable of detecting suspected contaminants. At least one PID/FID shall be positioned at a downwind dust monitor location with data recorded continuously during site work. If screening of the atmosphere downwind of the excavation area demonstrates sustained airborne concentration of VOCs above 5 parts per million (ppm), the contractor shall notify the Park District or their designated representative immediately. Monitoring results shall also be evaluated in accordance with the contractor's site specific health and safety plan.

Work done by the contractor within or below the existing cap shall be done under field oversight by the Park District or their representative. Oversight shall include verification of field PID/FID screening and overall conformance with specifications outlined in this Plan. In the event that the contractor's work is not in compliance with the specifications the contractor shall correct the work immediately upon identification and may be subject to fines or other penalties at the discretion of the Park District.

## 5.6 Surface Grading

When working at or above the existing cap, there shall be no disturbance of the existing cap from its original location. Contractors shall plan their work to account for zero movement of the existing cap and to adapt types and application of construction equipment to this end. This includes the limitation of methods to remove vegetation and surficial debris that do not cause disturbance of the existing cap. Uprooting existing vegetation shall not be conducted.

Where existing cap soils must be moved from their original location a minimum of two feet of proposed cap material should be maintained or reconstructed above contaminated soils. Additional details regarding transportation and placement of soils is described in Sections 5.8 and 5.9.

Surface disturbances to the existing cap material that are non-excavation related must be reported to the Park District and reconstructed immediately by localized backfilling with proposed cap material comparable to the surrounding surface. Contractors involved in grading shall not level off the existing surface through "back-dragging" by earthmoving equipment until imported clean fills have been placed.

Where the bid documents specify paved surfaces directly overlying the existing cap the existing cap may be used as the aggregate base. However, disturbances to the existing cap including, but not limited to, compaction, scarification or moisture control shall not be conducted. The

existing cap may only be used if specifications for aggregate base of paved surfaces are met "as-is".

## **5.7 Underground Excavation and Trenching**

Excess soils produced from excavation shall be transported offsite for proper disposal. Soil used for backfill shall consist of clean soil as defined in this document and approved by the Park District or its representative.

The contractor shall plan from onset of construction to maintain physical segregation of existing cap soils and contaminated soils during excavation activity. Identification of contaminated soil in direct contact with the existing cap shall cause all site work to be suspended immediately. Prior to resuming site work the contracting company's president or chief executive officer shall report to the Park District office for compliance with this Plan and the contractor's contaminated soil handling procedures. Such occurrences shall be subject to a minimum fine of \$10,000 per incident and the contractor will be responsible for completing site work without additional time allowances. The contractor must exercise care in documenting and recording the location and original elevations of the source of soils relative to site benchmarks and the original lot boundaries.

### **5.7.1 Excavation Soil Handling**

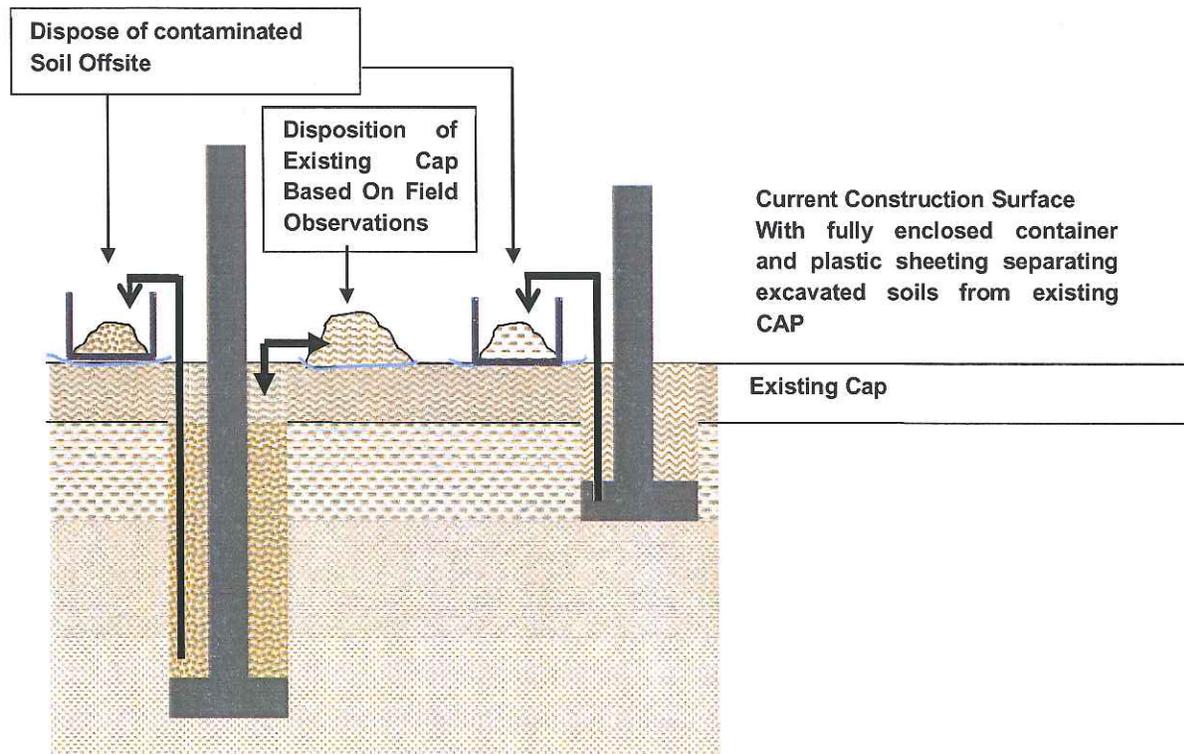
Soil generated as excavation spoils will require special handling and, if necessary, temporary placement on-site. A diagram of the proposed excavation areas related to overall site grading is provided in Appendix D. Generalized diagrams showing localized excavation and backfill detail for these structures are also provided in Appendix D.

This Plan recognizes the construction of utilities or other structures will disturb the integrity of the existing cap. During excavation for utility trenches or other excavations contaminated soils beneath the existing cap shall be removed and properly disposed of. If temporary storage of contaminated soil is necessary the soil shall be placed in a container with total enclosure, such as a waste dumpster or drum for disposal. A physical barrier such as new disposable polyethylene sheeting with a minimum thickness of 10 mils shall be placed between the existing cap material and the temporary stored contaminated soils to prevent cross contamination.

The temporary storage location shall be staged so that at least five feet of vacant space is present around the storage area. The border of the temporary storage area shall be equipped with a means to prevent soil and/or liquid from migrating beyond the polyethylene sheeting. For example, sand bags may be rolled in the polyethylene sheeting at the border of the sheeted area. Should the temporary storage remain overnight all containers shall be covered with the same polyethylene sheeting as the base and secured. As silt fence installation within the

existing cap requires additional disturbance (i.e. trenching) an alternate method of installation is recommended. Used sheeting and other materials used to temporarily contain staged contaminated soils must be handled and disposed of with contaminated soil. Temporarily staged contaminated soil shall be properly disposed within a maximum of 1 day of excavation.

For example, during excavation of the existing cap, the existing cap material should be stockpiled in a unique temporary staging area on clean sheeting for potential re-use depending on proposed finished surface completion. The contaminated fill and cover soils shall be direct loaded into hauling trucks. If temporary staging is necessary, the temporary staging area shall be physically separated from the existing cap soils as described above. If existing cap material is to be re-used, it should be the last returned to the excavation during backfill. Excess soils and temporary physical barriers shall be properly disposed of as outlined in Section 5.9.



### 5.7.2 Excavation Backfill and Import Soil

Where contaminated soils and existing cap material are excavated during construction it will be necessary to replace these materials based on the bid document specifications for finished grade surface. At a minimum, replacement of the contaminated soil below the proposed cap shall consist of clean aggregate from a virgin quarry.

The contractor shall submit a demonstration that any soil or aggregate proposed for import is clean. The demonstration should include collection of discrete soil samples representative of the import soil site and description of field methods used to collect such samples. At a minimum, import material shall be tested at a rate of one sample per 1,000 cubic yards from the same source. If more than one backfill source is used, then at least one sample will be collected from each source. For each source site, the contractor will record the address of the source site, the latitude and longitude, the name of the owner of the source materials, the location where the source materials originated from at the source site, phone number of the owner of the source materials and history of the site usage (i.e. farm, residential, industrial/commercial, etc.).

Soil samples shall not be composited. Each sample shall be submitted to an IEPA accredited laboratory under chain of custody. The chain of custody should include the sample collector's name, company, address, telephone number as well as the corresponding information for the analytical laboratory. Analytical testing shall be conducted on all import soil for IEPA Target Compound List parameters outlined in 35 IAC 740 Appendix A. Laboratory methods are outlined in Table 5-1. Results from each sample shall tabulated and compared to the Tier 1 Remediation Objectives (ROs) outlined in 35 IAC 742 Appendix B Table A for residential land use and Class I groundwater. Soil results shall not be averaged to achieve compliance.

**Table 5-1 Analytical Methods**

Analysis	Sample Type	Method
VOCs <sup>1</sup>	Soil	USEPA SW-846 Method 8260
SVOCs <sup>2</sup>	Soil	USEPA SW-846 Method 8270
Pesticides	Soil	USEPA SW-846 Method 8081
PCBs <sup>3</sup>	Soil	USEPA SW-846 Method 8082
24 Metals <sup>4</sup>	Soil	USEPA SW-846 Method 6020/7470A/7471A
pH	Soil	USEPA SW-846 Method 9045C

In the case of imported aggregate, a certificate from the quarry certifying that the stone is not impacted is acceptable. The certificate should contain historical source information, the name of the quarry, site address, telephone number and signature of owner certifying the material. Clean aggregate fill material may be subject to inspection by the Park District or their personnel at their discretion during import to the site.

Documentation of soil and/or aggregate demonstrating compliance with uncontaminated criteria shall be provided to the Park District at least 15 business days prior to transportation of the material to the site. The submittal should include field methods for sample collection, specified records for each source site, and a comparison of analytical testing results with the ROs

<sup>1</sup> VOCs – volatile organic compounds

<sup>2</sup> SVOCs – semi-volatile organic compounds

<sup>3</sup> PCBS – polychlorinated biphenyls

<sup>4</sup> 24 Metals – Inorganics outlined in 35 IAC 740 Appendix D

identified above. Analytical testing must be conducted within 60 days of the Park District submittal. Should clean import material come into contact with contaminated soils the clean import shall be considered contaminated and will be replaced by the contractor at no cost to the Park District.

Clean import material may be stockpiled on-site at locations approved by the Park District. A temporary indicator barrier fabric shall be placed between the existing cap and imported material prior to placement of stockpiles. The purpose of the indicator barrier is to provide a visual means of identifying the top of the existing cap when stockpiled clean soils are subsequently moved. The fabric shall consist of orange construction fence, snow fence or similar material whose visual properties will not degrade over time. The indicator barrier fabric should extend approximately five feet beyond the horizontal extent of the stockpile. Stockpiles shall not exceed ten feet in height vertically.

### **5.7.3 Reconstruction of Existing Cap**

The existing cap consists generally of the upper two feet across the site and is composed mostly of CA-6 aggregate on the surface of the site with clean clay fill soils along the side slopes. The existing cap shall be visually inspected and field screened with a PID prior to consideration for re-use on site. If field screening of existing cap material does not indicate visual or PID indications of contamination it may be re-used as part of the proposed cap or elsewhere provided the material meets the specification. A minimum of two feet of clean material must be maintained as a direct contact barrier at all times. If more than two feet of existing cap is identified during excavation, it shall be reconstructed so that two feet of clean proposed cap is present. However, the contractor shall not disturb existing cap that is greater than two feet thick in order to obtain aggregate for use elsewhere on the site.

This plan recognizes that horizontal utility piping runs may extend into the proposed cap based on the finished grade elevation. Specifically, gravity drained sewer lines may require placement within the proposed cap to achieve required slope. Occurrences of utility runs within the proposed cap shall be minimized to the extent practicable and the utility piping shall be bedded in proposed cap material so that a cumulative two foot thickness of proposed cap and utility piping is maintained at all times.

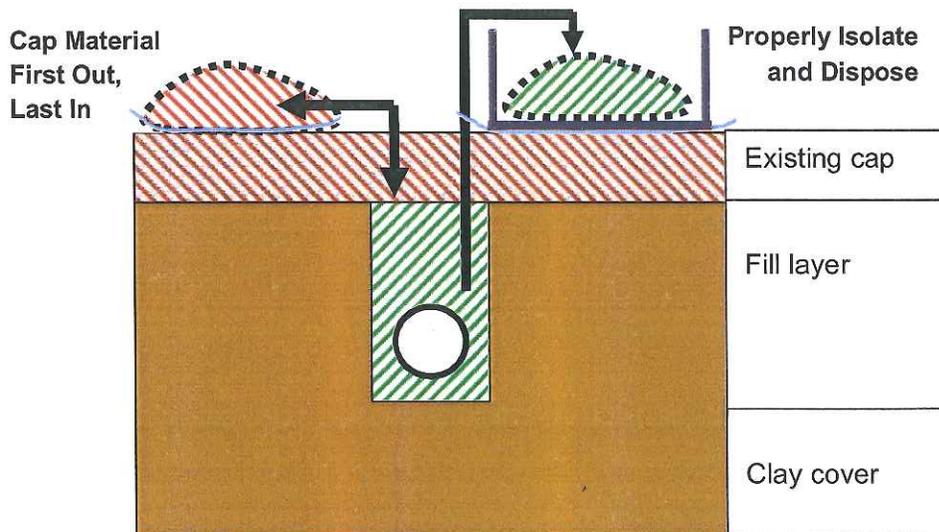
For the purposes of bidding, the contractor shall consider the upper two feet of existing cap as being clean and suitable for re-use. Excess existing cap material may be used elsewhere at the site provided it meets the applicable specifications.

If field screening of existing cap material indicates that is mixed with contaminated soil it shall be isolated according to the procedures outlined in Section 5.7.1. Similarly, should field screening indicate the presence of PID readings above ambient air background values, the existing cap material shall not be re-used. Mixing of the existing cap material to "dilute" field identified

contamination shall not be conducted. Existing cap material that is found to be mixed with contaminated soils shall be treated as contaminated soil and handled accordingly. Should existing cap material be identified as contaminated it shall be replaced in-kind with proposed cap.

Existing cap construction on the side slopes of the site consist of a transition zone from the CA-6 at the top of the slopes to a mix of clean earthen soil and topsoil along the side slopes. Excavation of the side slopes will be conducted where public entrances to the park are proposed to achieve accessibility standards required by the Americans with Disabilities Act. Replacement of the existing cap along the side slopes will be conducted with similar soil materials and topsoil to support vegetative growth consistent with the designed finished grade. Replacement of the existing cap on the side slope shall include repair of the in-place permeable geotextile fabric, where encountered, to its original condition.

Where more than six inches of imported aggregate is placed on top of the existing or proposed cap an indicator barrier fabric shall be placed between the cap and the imported aggregate. The indicator barrier fabric shall provide a visible warning to future site workers of the top of the existing cap. The fabric shall consist of orange construction fence, snow fence or similar material whose visual properties will not degrade over time.



Concerns and methods for environmental handling of soils do not preclude nor modify any of the OSHA requirements for worker safety incumbent upon contractors for regular site safety and trenching/excavation activities. OSHA requirements will dictate adjustment of the soil management method where necessary.

## 5.8 On-site Transportation of soils

Material to be transported within the property limits should be handled so as to minimize exposure to workers. Specific methods to be used in all soil transportation such as dust control are described in Section 5.0. Additionally, care must be taken to minimize the transportation time of contaminated soil and consequently the time construction workers are exposed to these soils. Transportation routes shall be planned prior to the proposed excavation and include specific location and sequencing of offsite disposal. Haulers shall hold and present upon request a current, valid Commercial Driver's License (CDL).

Equipment shall be designated for use within contaminated soils (i.e. excavators) and uncontaminated soils (i.e. hauling trucks). Hauling trucks are not permitted to contact contaminated soils with the exception of the bed of the truck. Soils shall be covered utilizing a truck mounted tarp system during transportation. Vehicles used to move these soils shall be dedicated to moving contaminated soils for the duration of the project or appropriately decontaminated prior to being loaded with clean soils. Waste tracking manifests will not be required for transportation of soils within the site. However, documentation shall be provided detailing the estimated volume of material moved, the original location and the final location including elevations.

## 5.9 Off-Site Removal

Excavated soils generated during grading operations and physical barriers used during temporary soil staging must be properly disposed of off-site. Based on historical data, off-site management of site soil as "uncontaminated" fill shall not be considered. As such, the routine removal and off-site disposal of soil shall be planned for at a permitted landfill facility. Haulers shall hold and present upon request a current, valid Commercial Driver's License (CDL).

At least 30 days prior to the start of excavation activities the contractor shall submit to the Park District a work plan for profiling the waste soil and obtaining approval for disposal at a non-hazardous, non-special Subtitle D permitted landfill facility. The work plan shall include mobilization to conduct preliminary characterization sampling in the specified areas to properly characterize soils. The samples should be submitted to an IEPA accredited laboratory under standard chain of custody procedures. Samples should be analyzed for parameters specified by the landfill using USEPA Solid Waste methodologies. The contractor should prepare profile paperwork and submit, with analytical data, to the Park District for their review and approval. Upon approval by the Park District a signed waste profile should be submitted by the contractor to the landfill for review and approval.

The contractor shall notify the Park District at least 48 hours prior to starting off-site disposal of contaminated materials. Once approved, contaminated soil shall be direct loaded into hauling trucks and transported to the disposal facility. Each truck shall be properly manifested in accordance with applicable local, state and federal Department of Transportation regulations. At

a minimum, transportation of soils for off-site disposal shall meet the requirements for on-site transport outlined in Section 5.8. The contractor shall return copies of all landfill tickets, manifests and related documentation to the Park District within 2-business days of disposal.

### **5.10 Waste Minimization**

To the extent practical, measures shall be taken to minimize the volume of excavated soils, to limit the need for dewatering activities, and to prevent exposure between storm water and impacted soils. Construction activities requiring subsurface excavation shall be completed and backfilled promptly to minimize exposure. The size or length of excavations shall be controlled to allow for proper completion of immediately pending activities. Excavations into contaminated soils shall not be left open overnight.

Excavation areas shall be protected from storm water run-on by constructing clean soil berms or other diversionary structures on the upgradient side of the area to direct water away from exposed soils and into proper storm water conveyance structures. If necessary, storm water detention areas can be constructed to allow for collection and transfer by pumping or other means around excavation areas. Further details on site-wide erosion control are provided on the drawings included in Appendix C and include silt fencing around the perimeter of the site, storm water inlet filters, a stabilized construction entrance in the southwestern portion of the site and the use of temporary erosion control blankets on side-slopes. However, Appendix C is not intended for use as a Storm Water Pollution Prevention Plan (SWPPP).

### **5.11 Decontamination**

Prior to mobilization, all mechanical equipment shall be decontaminated and visually inspected by the contractor. Decontamination done prior to mobilization shall be conducted with at least a high-pressure wash with clean potable water. Equipment inspections shall include hydraulic fluid or other conveyance lines that contain hazardous fluids with necessary repairs completed prior to mobilization. Inspection records shall be provided to the Park District or their designated representative prior to mobilization for approval. During on-site operations contractors shall use brushes, shovels etc. to conduct gross soil removal on equipment used to excavate or move soils at this project site on a daily basis.

Equipment in contact with contaminated soils must be decontaminated by high-pressure wash with an Alconox solution and clean water rinse prior to mobilizing to an uncontaminated portion of the site. Each piece of equipment used in a contaminated area shall be visually inspected by the Park District or their representative prior to operating in an uncontaminated area. The contractor shall maintain streets free and clean of materials from the site. Each vehicle should be visually inspected by the contractor prior to leaving the site so that contaminated soils are not transported off-site in contact with the exposed portion of the vehicle. Decontamination waste

shall be containerized and properly disposed of with contained soils/water as appropriate. Prior to demobilization, on-site equipment shall be similarly decontaminated and the waste properly disposed of.

Personnel decontamination shall be conducted in accordance with the contractor's site specific health and safety plan. Disposable personal protective equipment must be considered contaminated and shall be properly disposed of with the contaminated soil.

## **6.0 GROUNDWATER MANAGEMENT**

As previously discussed, based on the elevation of the park surface groundwater is not anticipated to be encountered during the majority of construction activities at the site. Storm water that has not been in contact with contaminated soils should be managed in accordance with the SWPPP provided with the bid documents.

However, should groundwater or storm water be encountered in contact with contaminated soil during excavation activities it shall be managed as potentially contaminated water as discussed below. All dewatering, whether from storm water or groundwater, is considered incidental to the project and included in the contractor's base bid. Discharge of untested or untreated groundwater to the ground surface, storm sewer, or sanitary system is prohibited.

Construction activities should be sequenced to reduce the amount excavation open at any given time to reduce the volume of water requiring management and disposal. Containment, testing, and disposal of water should be performed consistent with the procedures outlined below.

The amount of groundwater entering excavations is expected to be limited, and therefore, temporary containment on-site for subsequent testing and disposal is anticipated to be the most cost effective way to manage potentially contaminated groundwater/storm water. Groundwater or storm water entering the excavation that requires removal to facilitate construction should be pumped to a portable holding tank(s) staged conveniently at the work area. The contents of the tank(s) should be sampled and tested to determine if site contaminants are present. Depending on the results of laboratory analysis, the accumulated water shall be transported off-site for disposal at a licensed facility.

## **7.0 SUMMARY**

This document has been developed to inform contract bidders and their personnel of the potential for encountering contaminated soils during construction activities in the Project Area in Chicago, Illinois. The concentrations of contaminants in soil pose a limited health hazard to construction personnel via inhalation of contaminated dust or vapors and the accidental ingestion of soil.

This Plan is intended to provide specifications for management of soil below the existing direct contact barrier in the Project Area. The contractor is responsible for managing existing cap materials, contaminated soils and contaminated water in accordance with the specifications outlined in this Plan and under the approval of the Park District.

## **8.0 REFERENCES**

Parsons Engineering Science, Inc.; Data Report for the Engineering Evaluation and Cost Analysis of The Former Celotex Site, 2800 South Sacramento Avenue, Chicago, IL; October 1997.

U.S. EPA Region V; Enforcement Action Memorandum – request for a Non-Time-Critical Removal Action at the 2800 South Sacramento Avenue Site, Chicago, Illinois; March 7, 2005.

U.S. EPA Region V; Agreement and Covenant Not To Sue City of Chicago or Chicago Park District; January 20, 2012.

U.S. EPA Region 5; Administrative Settlement Agreement and Order on Consent for Removal Action; August 28, 2006.

CH2M Hill; Main Site Cover Construction Completion Report, Former Celotex Site, 2800 South Sacramento Avenue, Chicago, Illinois; January 2010.