

EGLE Brownfield Grant Work Plan

Project Name: City of Rochester Hills Grant Work Plan
Project Location: 3001 W. Auburn Road, Rochester Hills, MI, 48309
EGLE Tracking Code: 2023-2540
EGLE Location Code: 6K60
Work Plan Date: February 26, 2024
Work Plan Number: 1
Work Plan Subject: Soil Remediation and Verification Sampling

Awardee Name: City of Rochester Hills
Prepared by: ASTI Environmental

1.0 INTRODUCTION

Based on the environmental investigations conducted at the Subject Property, and as described in the document titled *Due Care Plan, Conducted Pursuant to Section 20107a of 1994 PA 451, Part 201, as amended, 3001 W. Auburn Road, Rochester Hills, Michigan*, for City of Rochester Hills, dated May 27, 2022, soil samples collected on the north portion of the Subject Property were reported with concentrations of arsenic and/or lead exceeding the generic residential clean-up criteria (GRCC) for direct contact.

Response Activities, specifically excavation and off-site disposal of the contaminated soils and replacement with clean soils, will be conducted to address the potential for unacceptable risk as part of the redevelopment of the Subject Property.

2.0 SCOPE OF WORK

2.1 Task 2 Due Care

2.1.1 Soil Remediation and Verification Sampling Work Plan

This Work Plan has been prepared as a pre-approved activity.

2.1.2 Landfill Approval

Prior to conducting any soil removal, ASTI Environmental will contact a licensed Type II Landfill, will provide site sampling data collected to date, and will identify any additional landfill specific parameters required. Based on the landfill requirements, ASTI will collect two waste characterization soil samples in a representative area.

2.1.3 Soil Excavation, Transportation and Disposal

Prior to conducting any soil removal, four bids will be obtained for completion of this task.

Prior to conducting any soil removal, ASTI will contact the MISS DIG system to locate public utilities. The City of Rochester Hills will be responsible for locating any private utility lines in the vicinity of the soil boring locations or providing confirmation that no utilities are present in those areas. ASTI will not be responsible for damaging utilities or resulting property damages related to damaging utility lines during subsurface drilling and field operations.

The City of Rochester Hills will obtain any right-of-way permits required to conduct the soils remediation.

To mitigate the potential for exposure via the direct contact pathway, all soil located in the delineated area of remediation will be excavated from the Subject Property and properly disposed off-site. All soil removed will be directly loaded into trucks. Manifests will be signed by a representative of the owner, the City of Rochester Hills. Copies of all truck tickets and disposal manifests will be maintained as documentation of the remedial activities and included in the summary report.

Based on the soil sampling completed on the Subject Property, the contaminated materials are expected to be confined to the upper 3 feet below grade. Contaminated materials were delineated in the area of remediation (Figure 1). Based on the dimensions of the delineated area of remediation and removal of the soils to an average depth of 3 feet bgs, the estimated volume of soils to be removed and disposed is approximately 700 cubic yards (945 tons using a 1.3 density factor). Refer to Figure 1 for the expected excavation area.

Soils excavated and transported off-site for disposal as part of the response activities will be disposed of in a Type II landfill in compliance with all local, state, and federal laws.

2.1.4 Verification Sampling

Following excavation and before backfilling, confirmation of remediation sampling will be completed in general accordance with the guidance provided in the Sampling Strategies and Statistics Training Materials (S3TM) for Part 201 Cleanup Criteria (MDEQ 2002). Because the excavation is expected to be significantly less than 10,890 square feet, biased verification of soil remediation (VSR) samples will be collected in compliance with the formula provided in Section 1.3.1 of the S3TM.

The excavation at the Subject Property is expected to be approximately 4,800 square feet and approximately 3 feet deep. Based on this expected size, 12 VSR samples (7 floor samples and 5 sidewall samples) will be collected from the excavation. However, if the excavation differs significantly from the expected size, VSR samples will be collected based on the sampling frequency as recommended in Section 1.3.1 of the S3TM. For QA/QC purposes, one duplicate sample will also be collected.

All VSR and QA/QC samples will be analyzed for arsenic and lead. Following excavation, the soils that remain will be native to the Subject Property and in accordance with Section 20101(e)(ii) of NREPA in place of the GRCC, it is appropriate to substitute regional background values for the naturally occurring metals. Therefore, any detected concentrations of these naturally occurring metals will be compared to the regional background concentrations following the procedures for use outlined in the September 2019 Soil Background and Use of the 2005 Michigan Background Soil Survey Resource Materials published by EGLE.

The removal of soil is expected to be limited to the delineated area of remediation on the Subject Property. However, additional soil excavation may be conducted outside the remediation area until the analytical results for samples collected from the sidewalls and floor exhibit concentrations below the GRCC for direct contact and/or regional background level for the contaminants of concern.

2.1.5 Waste Characterization Sampling

To assist in determining disposal options, two representative samples will be collected from the soils to be removed from the area of remediation. The samples will be analyzed for Toxicity

Characteristic Leaching Procedure (TCLP) RCRA 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), or other parameters specified by the selected landfill.

2.1.5 Backfill

Following completion of all excavations, the excavations will be filled with clean soils imported from a nearby quarry. This Work Plan assumes a compaction factor of 1.2 for all imported clean soils. Documentation that the clean soils are from a native source will be provided, or imported soils will be sampled for arsenic and lead. Load tickets, indicating the source of the clean soils, will be maintained for all soils transported to the Subject Property and will be included in the summary report.

2.1.6 Summary Report

A summary report will be provided to describe the work performed and any deviations from this work plan, present the results of the soil sampling, and provide documentation of all the materials removed from, or placed on, the Subject Property.

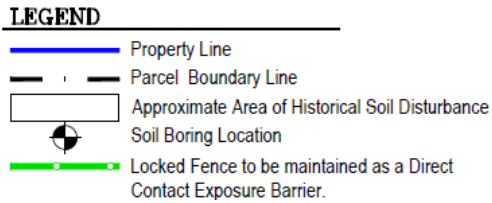
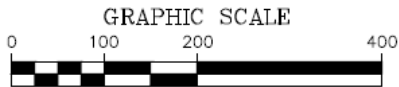
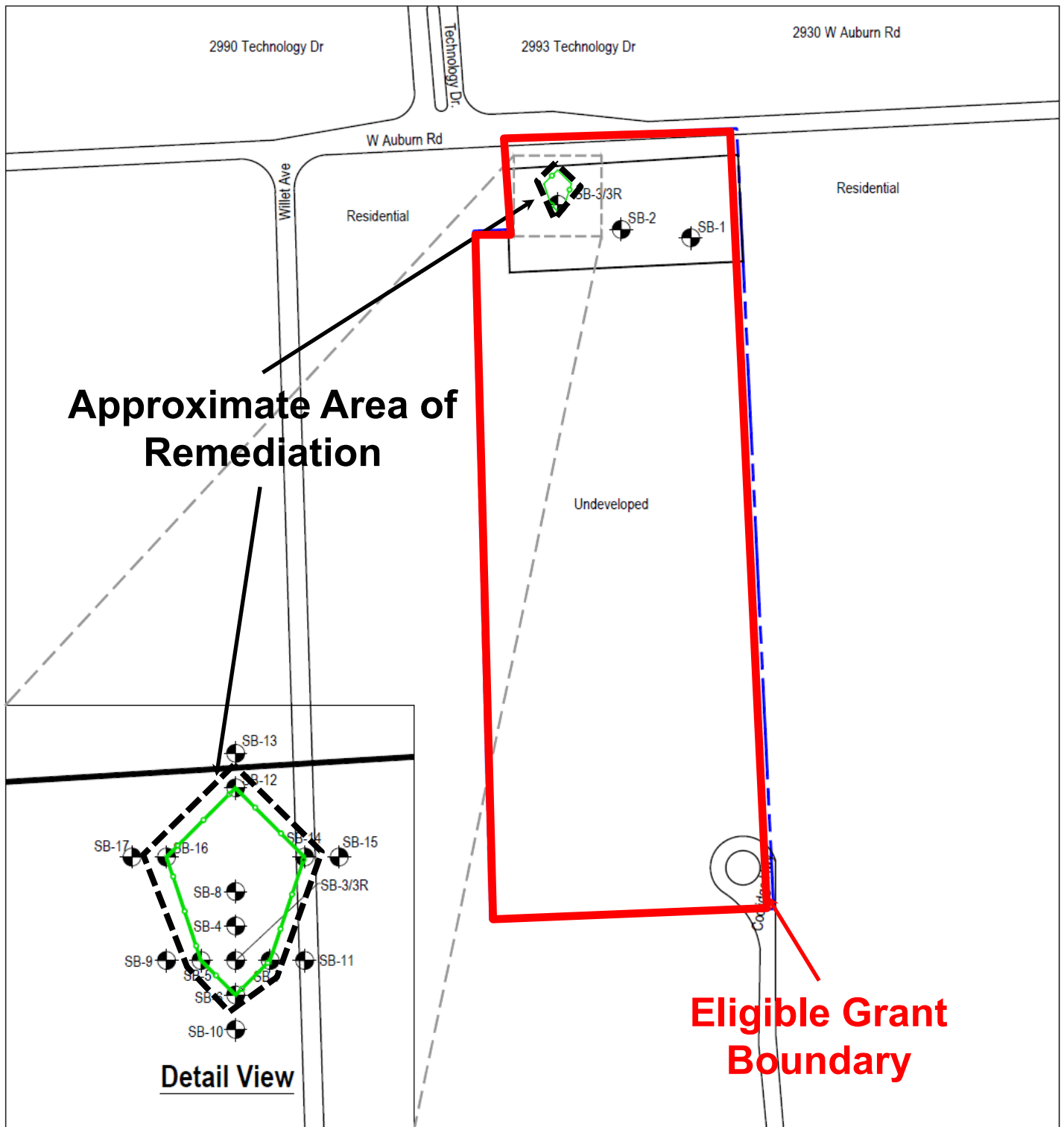
3.0 SCHEDULE

The following is the proposed schedule for this Work Plan.

<u>Task</u>	<u>Completion</u>
Prepare Work Plan	Completed
Landfill Approval	July 2024
Soil Excavation, Transportation and Disposal	August 2024
Verification Sampling	August 2024
Backfill	August 2024
Summary Report	September 2024

Figures

Insert Figure 1: Response Activity Map



3001 W Auburn Road

Rochester Hills, MI



Created for: City of Rochester Hills
Created by: TJW December 4, 2023 (#11482-26)

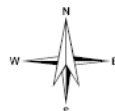


Figure I: Site Location Map

Tables

Table 1

Work Plan Activity Costs and Schedule					
Eligible Activities	Quantity	Unit	Unit Cost	Cost	Estimated Completion Quarter
3001 W Auburn					
Task #2 Due Care					
Task 2001 Preparation of Work Plan	1	Est		\$ 2,500.00	Completed
Task 2002 Site Specific Health and Safety Plan	1	Est		\$ 800.00	Spring 2024
Task 2003 Soil Excavation, Disposal and Backfill					Spring - Summer 2024
Soil Excavation, Transportation and Disposal	945	Tons	\$ 88.00	\$ 83,160.00	
Oversight	1	Est		\$ 3,400.00	
Task 2004 Temporary Site Control	1	Est		\$ 3,000.00	
Task 2005 Temporary Access and/or Roads	1	Est		\$ 5,000.00	
Task 2006 Temporary Erosion Control	1	Est		\$ 2,000.00	
Task 2007 Dust Control	1	Est		\$ 2,000.00	
Task 2008 Clearing and Grubbing	1	Est		\$ 5,000.00	
Task 2009 Back (1.2 Compaction Factor)	1,134	Tons	\$ 28.00	\$ 31,752.00	
Task 2010 Verification Sampling					
Verification Sampling -Field Work	1	Est		\$ 2,000.00	
Analytical	13	ea.	\$ 82.00	\$ 1,066.00	
Report	1	Est		\$ 2,900.00	
Task 2011 Waste Characterization/Landfill Approval					
Sampling, Approvals and Coordination	1	Est		\$ 2,500.00	
Analytical TCLP Metals	2	ea.	\$ 224.00	\$ 448.00	
Task 2012 Project Management/Grant Reporting	1	Est		\$ 3,000.00	
Task #4 EGLE Sign					Spring 2024
Task 4001 Sign	1	ea.	\$ 500.00	\$ 500.00	
Task #8 Contingency				\$ 22,578.90	
EGLE Eligible Activities Total Costs				\$ 173,604.90	

Table 2

Cumulative Expenditures Table								
Task	Current Grant Budget	Pre-Approved	Work Plan 1	Work Plan 2	Work Plan Amount Approved to Date	Amount Spent to Date	Work Plan Amount Remaining	Grant Amount Remaining
Task #2 Due Care	\$ 158,500.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 158,500.00
Task #4 EGLE Sign	\$ 500.00	\$ 500.00	\$ -	\$ -	\$ 500.00	\$ -	\$ 500.00	\$ 500.00
Task #8 Contingency	\$ 23,775.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,775.00
EGLE Eligible Activities Total Costs	\$ 182,775.00	\$ 500.00	\$ -	\$ -	\$ 500.00	\$ -	\$ 500.00	\$ 182,775.00

Appendices

Appendix A: Due Care Plan