

# **Verification Report**

**Buerkle Woodlands  
Allegheny Land Trust**

City Forest Credits Project Number 023

11 November 2022

Ecofor LLC

# TABLE OF CONTENTS

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1	INTRODUCTION .....	3
1.1	PROJECT BACKGROUND.....	3
1.2	CONTACT INFORMATION.....	3
1.3	OBJECTIVE .....	3
2	VERIFICATION CRITERIA.....	4
2.1	GENERAL .....	4
2.2	PROTOCOL.....	4
2.3	LEVEL OF ASSURANCE .....	4
3	SCOPE OF VERIFICATION .....	4
4	VERIFICATION PROCESS.....	5
4.1	VERIFICATION ACTIVITIES .....	5
4.2	CFC TREE PRESERVATION PROTOCOL REQUIREMENTS.....	5
4.2.1	Eligibility .....	5
4.2.2	Additionality.....	6
4.2.3	Permanence .....	7
4.2.4	Accounting .....	7
4.2.5	Leakage .....	8
5	VERIFICATION FINDINGS.....	9
6	VERIFICATION RESULTS AND CONCLUSION .....	9

# 1 INTRODUCTION

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City Forest Credits engaged Ecofor LLC (a Validation and Verification Body (VVB) acting as a third-party verifier) to verify the Buerkle Woodlands (Project), Sewickley Hills and Ohio Townships, Allegheny County, PA, for the reporting period 11 May 2022 through 10 May 2025. The goal of the verification is to ensure that the GHG assertion is materially correct, and that the assertions made by the project are well documented.

## 1.1 PROJECT BACKGROUND

The project is encompassed within two forested parcels totaling 64.127 acres in Sewickley Hills and Ohio Townships, Allegheny County, Pennsylvania. The lands support mixed successional forest composed predominantly of Oak, Hemlock, and Pine. Previously the land had been in agricultural use. Allegheny Land Trust (ALT) acquired the property in fee and recorded a covenant, which preserves the forest.

## 1.2 CONTACT INFORMATION

### Project Operator

Allegheny Land Trust

416 Thorn St.

Sewickley, PA 15143

Contact: Alyson Fearon, Sr. Director of Community Conservation & Resiliency,  
afearon@alleghenylandtrust.org

### Verification Body

Ecofor LLC

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Lake Forest Park, WA 98155

Contact: Gordon Smith, +1 206 784 0209

## 1.3 OBJECTIVE

The goal of this GHG emission reduction verification is to ensure that the GHG assertion made by the Project is materially correct, that the assertions and assumptions used in the offset calculations are appropriate, that the offset calculations conform to the City Forest Credits (CFC) Protocol, and that the Project is in compliance with all CFC requirements relating to eligibility, accounting, and documentation.

## 2 VERIFICATION CRITERIA

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### 2.1 GENERAL

The Registry will accredit VVBs to act as third-party verifiers who meet the Registry's qualifications and complete training. Those accredited VVBs can then act to verify compliance with this Tree Preservation Protocol per International Standards Organization 14064-3. Specifically, the Registry adopts and utilizes the following standards from ISO 14064-3:

- Upon receiving a Project Design Document with data on eligibility, quantification of carbon and co-benefits, and a request for credits, the Registry will conduct a validation. If it validates the project at that stage, the Registry will retain a VVB to act as third-party verifier to verify compliance with this Protocol.
- The Registry requires a reasonable level of assurance in the accuracy the asserted GHG removals to a reasonable level.
- The verification items identified in the tables are all material elements, and any asserted GHG removals must be free of material errors, misstatements, or omissions regarding those elements.
- The Registry will record, store, and track all quantification and verification data and either display it for public review or make it available for public review upon request.

### 2.2 PROTOCOL

The verification was conducted to the City Forest Credits Tree Preservation Protocol, version 11.40, February 7, 2022.

### 2.3 LEVEL OF ASSURANCE

This verification was conducted to a reasonable level of assurance. The Verification Report accurately reflects the documentation contained in the Project Design Document and supporting documents.

## 3 SCOPE OF VERIFICATION

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- The Project encompasses land within tax map parcel 606-G-198 within Sewickley Hills Borough, and tax map parcel 607-E-202 within Ohio Township, both within Allegheny County, Pennsylvania, specifically described in the Project Design Document.
- The Project Operator purchased these lands and within the recorded deed for each parcel included a permanent restrictive covenant prohibiting cutting down, removing or destroying trees except to control or mitigate hazard to life or destruction of property, protect forest health and mitigate fire.

- The Project avoids emission of CO<sub>2</sub> from trees and soil, by avoiding conversion of forest to non-forest land cover and avoiding conversion of forest soil to impervious surface.
- The project duration is 40 years, beginning 11 May 2022. The Project Operator commits to protecting the trees within the project area and monitoring the project carbon stocks for the entire project duration.
- The verification includes review of maps of the project area, recorded ownership records, recorded conservation provisions, surrounding development, urban area boundaries, applicable zoning codes, availability of utilities especially sewer (affects allowable lot size for development), historical aerial imagery showing history of forest cover, points sampled to determine canopy cover, carbon stock calculations, and credit calculations. All forest carbon input values were independently checked and calculations were independently replicated.

## 4 VERIFICATION PROCESS

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### 4.1 VERIFICATION ACTIVITIES

The verification process consisted of the following activities:

- Verifier checked all requirements in the Protocol (outlined in 4.2), confirmed that documentation satisfies the requirements of the Protocol, and that values extracted from the documents and conclusions drawn from the documents are accurate and appropriate
- Verifier independently checked mapping and calculated values in each stage of calculations
- Verifier reviewed the credit calculations and made independent calculations based on the verifier's interpretation of aerial images and zoning codes.

### 4.2 CFC TREE PRESERVATION PROTOCOL REQUIREMENTS

#### 4.2.1 Eligibility

Verifier reviewed the Project against all CFC Tree Preservation Protocol requirements and confirmed the following:

- Project Operator Identity (Section 1.1): Verifier confirmed that the Project Operator is the landowner and confirmed the land owner's identity by reviewing the recorded deeds to the project land parcels.
- Project Implementation Agreement (Section 1.2): Verifier confirmed Project Operator has properly executed a Project Implementation Agreement with City Forest Credits.

- Project Location (Section 1.3): The project location is within an “urban area” defined by the United States Census Bureau.
- Defining the Project Area (Section 1.4): The project area is mapped, meets the requirements of the Protocol, and has greater than 80% tree canopy cover.
- Land Ownership or Right to Receive Credits (Section 1.5): Verifier confirmed that there is a clear title to carbon credits and the Project Operator has legal authority to create and dispose of greenhouse gas offsets generated on the project lands.
- Project Dates (Section 2): Project initiation dates meet the requirements of the Protocol.
- Project Documentation (Section 3): Verifier reviewed and confirmed Project Documentation including Project Design Document is complete and accurate.
- Demonstration of threat of deforestation and project preservation commitment preventing deforestation (Sections 4 and 6):
  - Verifier confirmed that trees were not protect from removal prior to the Project.
  - Verifier confirmed that trees within the Project Area are now preserved from removal by a recorded restrictive covenant in the deeds to the two land parcels.
  - The Project Operator has committed to meeting the permanence requirements.
  - Verifier confirmed that the land is zoned allowing development and, except for small areas that a developer could work around, is developable and not in an “overlay zone” such as wetland or steep slope that would prevent development, resulting in the trees being at risk of removal prior to the Project.
  - Prior to the Preservation Commitment action by the Project Operator there was threat of conversion of the project lands to non-forest cover shown by existing development on more than 90% of the project perimeter, which is greater than the 30% minimum amount required to demonstrate risk of development.
- No Double Counting and No Net Harm (Section 5): Verifier confirmed that Project Operator signed an Attestation of No Double Counting and No Net Harm.
- Monitoring and Reporting (Section 8): Verifier confirmed that Project Operator has a written plan for monitoring and reporting over the Project Duration, and the plan is plausible and reasonable.

#### 4.2.2 Additionality

Verifier reviewed and confirmed that Project lands met the additionality requirements of the Protocol:

- Prior to the Project, lands were not protected from conversion by easement, zoning, or other legal mechanism.
- Zoning allows development including removal of existing trees.

- The trees in the Project Area face some risk of removal or conversion out of forest, demonstrated by more than 90% of the perimeter of the project lands being adjacent to developed parcels.
- Project Operator signed an Attestation of Additionality.

#### 4.2.3 Permanence

The Project Operator has committed to CFC that the Project Operator will protect the trees on the Project Area 40 years. The restrictive covenants protecting the Project Trees and lands are permanent.

#### 4.2.4 Accounting

The Project documents forest type, forest age, percent tree cover, and uses required factors in carbon stock and offset calculations.

The section of the east parcel that is zoned R-1 is across Red Mud Hollow Road and nearly adjacent to the Kilbuck Run Sewage Treatment Plant, and uphill from the plant. The plant has substantial available capacity, according to the most recent Ohio Township Comprehensive Plan Update. Thus the parcel is assumed to have sewer access, and according to the Township zoning code the minimum lot size in this zone with sewer access is 20,000 square feet.

The Project Operator assumes that the steep slopes within the project area are not buildable. The verifier assumes that lots would be laid out such that the steep slopes are within the forest retention areas within developed lots. Because the steep areas are narrow strips, the verifier judges this assumption to be reasonable. With this assumption, and the verifier's interpretation of the zoning code, it is possible that up to 5% more of the project area could be cleared than claimed by the project, and thus the claimed cleared area is conservative.

The Project Operator asserts that the Sewickley portion of the project area has a forest age of 65 years. Viewing historical aerial photos, the verifier interprets the images as showing substantial tree cover over approximately 90% of the project area in a 1949 photo, and based on this, interprets stand age of this parcel as 70 years. The Project Operator asserts a stand age on the Ohio Township parcel of 85 years. A 1939 photo shows nearly complete canopy of relatively mature trees in this photo, which was taken 83 years ago. However, a photo taken in 1992 shows relatively smooth texture, in contrast to shadows on the sides of large tree canopies shown in the 1967 photo. However, the 1967 photo has shadows to the west of tall objects, indicating that it was taken early in the morning, while the sun was low in the sky, thus generating larger shadows. In contrast, the shadows in the 1992 photo are to the NNW of objects, indicating that the photo was taken in the late morning when the sun was relatively high in the sky. The higher sun angle would make fewer shadows. The tree canopies in multiple leaf-on photos from 2010 to 2019 show large tree canopies. The 1992 photo raised the possibility that the larger trees on the property were removed between 1967 and 1992. However, the presence of larger tree canopies in photos from 2010 on suggest that the lack of tree canopy shadows in the 1992 photo are a result of the higher sun angle in that photo. To test the conservativeness of the carbon sequestration claim, the verifier calculated the carbon stocks and avoided emissions if the Ohio Township parcel was partially logged after 1967 and long enough before 1992 that the trees left after logging completely occupied the site, with an estimated origin date of 1957 of the trees not removed by logging, and thus stand age 65. If this logging had occurred, and the Sewickley parcel was age 70, the carbon stock would be almost the same as the carbon stock estimated by the Project Operator. Because of the NNW shadow angle in the

1992 photo and the presence of large tree canopies in later photos, the verifier judges that it is unlikely that removal of larger trees occurred between 1967 and 1992, but even if this removal did occur, the carbon stock estimate and avoided emissions are accurate as claimed.

The verifier independently checked the Project Operator's calculation of 93% tree canopy cover within the project and finds that assessment to be correct.

The Project Operator calculates avoided soil emissions based on 25% of the developable area being allowed as impervious surface. The verifier's reading of the zoning code indicates that 40-60% of the developable area is allowed to be impervious surface, varying across the different zones within the project area. As a result, the project's calculation of avoided soil emissions is conservative.

#### 4.2.5 Leakage

Calculations of emissions resulting from displacement of development resulting from preventing development on project lands follow the requirements of the Protocol.



## 5 VERIFICATION FINDINGS

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The verifier finds that the claimed avoided emissions are accurate or conservative, with a reasonable level of assurance.

## 6 VERIFICATION RESULTS AND CONCLUSION

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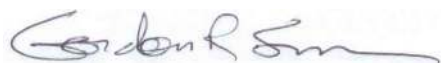
This verification of the Buerkle Woodlands project for the reporting period 11 May 2022 through 10 May 2025 was completed in a manner consistent with ISO 14064-3 and in conformance with relevant CFC standards and guidelines. The table below is a summary of the emission reduction or removals.

Project Name	GHG Reductions and Removals Attributed to the Project (mtCO <sub>2</sub> e)	Reversal Pool Account (10%) (mtCO <sub>2</sub> e)	Emission Reductions to be Issued to Project (mtCO <sub>2</sub> e)
Buerkle Woodlands 2022	5,453	545	4,908
Cumulative	5,453	545	4,908

Because the project is less than 50 acres, all credits are issued in the first year.

The project calculated co-benefits using the iTree tool. The iTree tool asserts 16,027 cubic meters of rainfall interception, 1.1 tons of air quality, 48,668 kWh/year of cooling and 2,014,625 kBtu/year of heating to the project area. This verification did not review these claims and this verification makes no assessment of the plausibility of these claims.

**Lead Verifier Signature**



**Gordon R. Smith, PhD**