

# **Verification Report**

## **Year 4**

### **Reforestation Austin's Parks and Riparian Zones**

City Forest Credits Project Number 002

February 8, 2023

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# 1 INTRODUCTION

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Dan Hintz (a Validation and Verification Body (VVB) acting as a third-party verifier) was engaged to verify the Reforesting Austin's Parks and Riparian Zones (Project) in Austin, Texas, for the issuance of credits at the Year 4 interval based on the applicable protocol. The goal of the Year 4 verification is to ensure that the GHG assertion is materially correct, and that the sampling process and carbon quantification by the project are well documented and appropriate.

## 1.1 PROJECT BACKGROUND

TreeFolks has partnered with City of Austin's Watershed Protection Department and City of Austin's Parks and Recreation Department to create planting projects across the city. TreeFolks planted 47 trees at two sites, Davis White and Patterson Parks in the City of Austin in March 2018 using the Single Tree Approach. TreeFolks also planted 1,250 trees in 2018 at a third City of Austin site, Onion Creek, using the Canopy Approach.

These planting projects serve to increase canopy cover and diversity in riparian zones and parklands around Austin, TX. Through increased diversity, these plantings will provide food and habitat for local wildlife and buffer against the possibility of a catastrophic loss of Austin's urban forest. Increased canopy cover and forest density will improve the functionality of the drainage basins and surrounding ecosystems along with ameliorating the urban area's heat island effects. These plantings also serve to engage local community members with their environment and beautify Austin's local streams by creating a lasting, impactful change for the better on the city landscape.

For the Year 4 credit issuance, Tree Folks followed two approaches for monitoring that corresponded with the two planting design and quantification methodologies used in the Project. For the tree plantings at Davis White and Patterson Parks, which followed the Single Tree Planting Design and Quantification Method, the live/dead status of each tree was assessed, and geocoded photos were taken for 21.2% of trees. Due to mortality and tree replacements since initial planting in 2018, the projected 25-year CO<sub>2</sub> storage was re-projected and reduced from 136 to 134 credits (before deductions).

For the plantings at Onion Creek Park, which followed the Canopy Planting Design and Quantification Method, satellite imagery and random point sampling using iTree Canopy were used to measure canopy regeneration. Because of edge encroachment, the Project Area was reduced from 4.3 acres to 3.85 acres. This reduction in Project Area reduced the projected 25-year CO<sub>2</sub> storage for Onion Creek from 459 to 411 credits (not including reversal deduction).

## 1.2 CONTACT INFORMATION

### Project Operator

TreeFolks  
10803 Platt Ln  
Austin, TX 78725

Contact: Valerie Tamburri, [valerie@treefolks.org](mailto:valerie@treefolks.org), 512-443-5323

#### Verifier

Dan Hintz

810 2<sup>nd</sup> Ave NW, Apt 4

Issaquah, WA 98027

Contact: [daniel.j.hintz@gmail.com](mailto:daniel.j.hintz@gmail.com) - 630-740-8947

### 1.3 OBJECTIVE

The goal of this GHG emission removal verification at Year 4 is to ensure that the GHG assertion made by the Project is materially correct, that the sampling process and data 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 Planting Protocol per International Standards Organization 14064-3. Specifically, the Registry adopts and utilizes the following standards from ISO 14064-3:

- Upon receiving a Year 4 Project Design Document Amendment with sampling data, 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 of the asserted GHG removals to a reasonable level.
- The verification items identified in Tables 1 and 2 are all material elements, and any asserted GHG removals must be free of 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 Planting Protocol, version 6, August 11, 2018.

### 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 is located in Austin, TX, specifically described in the Project Design Document.
- The verification is for the issuance of credits at the Year 4 interval.
- The verification includes review of documents, maps, tree mortality and survival data, tree canopy data, imagery and geocoded photos, and other evidence provided by the Project Operator; independent checking of selected data, including independent analysis of sample points on i-Tree Canopy; and checking of calculations for accuracy and conformance with the Protocol.

## 4 VERIFICATION PROCESS

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### 4.1 VERIFICATION ACTIVITIES

The verification process consisted of the following activities:

- Verifier checked that the dates when trees were sampled (for the Single Tree Quantification date) and the dates when the tree canopy imagery was analyzed (for the Canopy quantification method) were subsequent to the Request for Credit Issuance date, August 27, 2022.
- Verifier checked all requirements in the Protocol, confirmed that documentation satisfies the requirements of the Protocol, and that values extracted from the documents and conclusions drawn from the document are accurate and appropriate
- Verifier checked project mapping, photos of trees that made up a sample of over 20% (minimum requirement for Single Tree planting design) for planting using the Single Tree Quantification method, i-Tree random sampling data and maps for planting using the Canopy quantification method, and all required attestations. Verifier reviewed the accuracy of process for tree replacement since Year 1, sampling and data collection, including: sample size calculations for Single Tree quantification and random points (and their locations) selected for Canopy quantification, how cover classes were interpreted for the Canopy cover assessment, and project boundaries.
- Verifier reviewed the accuracy of the carbon quantification and City Forest Carbon Forward Removal Credit calculations. Verifier reviewed the Project Operator's assertion that the Project results in total GHG emissions mitigation of 492 tons CO<sub>2</sub>e over the 25-year Project Duration.

Verifier reviewed the Project Operator's assertion that the Project results in GHG emissions mitigation of 197 tons CO<sub>2</sub>e at Year 4.

- Verifier submitted to the Project Operator request for clarification on the following issues:
  - 1) The number of trees (1,250) included in the Canopy Quantification Tool for Onion Creek after the Project Area was reduced by 0.45 acres. The Project Area was reduced, but not the number of trees planted in the Canopy Quantification tool. Because quantification for the Canopy method is based on number of acres rather than number of trees planted, no changes were requested.
  - 2) i-Tree Canopy Assessment methodology and creation and interpretation of cover classes (new growth tree, old growth tree, grass/herbaceous, and bare ground). Verifier received clarification and conducted an independent review of the i-Tree Canopy sampling data.

#### 4.2 CITY FOREST CREDITS TREE PLANTING PROTOCOL REQUIREMENTS AT YEAR 4

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

- Project Design Document (Appendix A): Verifier reviewed and confirmed Project Design Document Amendment is complete and accurate.
- Project Documentation (Appendix A and Appendix B): Verifier confirmed all required project documentation present.
- Additionality (Section 2): Verifier reviewed for additionality as follows:
  - Verifier reviewed the completed and signed Attestation of Additionality
- Quantification (Section 9 and Appendix B):
  - Verifier confirmed Project Operator utilized the Single Tree method for 47 trees planted at Davis White and Patterson Parks and the Canopy method for 1,250 trees planted at the Onion Creek site using the CFC quantification methodology described in Appendix B.
  - Verifier reviewed the accuracy of the data collection process and the data integrity for the Year 4 sampling and quantification methodology.
  - Verifier reviewed spreadsheets with data from sampled trees for carbon quantification, geocoded photos, aerial imagery, canopy assessments from iTree Canopy, and both the Single Tree and Canopy quantification tools updated with data from Year 4.
- Co-Benefits (Section 9 and Appendix B): Verifier confirmed the calculation of ecosystem co-benefits as set forth in the City Forest Credits quantification tool.
- Attestation of No Double Counting of Credits and No Net Harm
  - Verifier reviewed the completed and signed Attestation of No Double Counting of Credits and No Net Harm.

## 5 VERIFICATION FINDINGS

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Verifier reviewed the changes to the carbon quantification and Project Area, including a reduction of credits for trees planted at Davis White and Patterson Parks and a reduction of project area (and credits) at Onion Creek.

For Patterson and Davis White Parks, three trees (of the 47 planted) died and were replaced by smaller tree species. These changes were documented in the Year 4 PDD and Single Tree Quantification Tool and resulted in two less credits projected over the course of the project (this is before mortality and Reversal Pool Account reductions).

For Onion Creek, 0.45 acres of the Project Area was removed as it was deemed to be all mature canopy and analysis of tree planting was not feasible using the iTree Canopy Assessment sampling method. The Project Area was reduced from 4.3 to 3.85 acres. These changes were documented in the Year 4 PDD and Canopy Quantification Tool and resulted in 48 fewer credits being projected over the course of the project.

Verifier determined that these updates were accurate and appropriate.

All issues raised by Verifier were clarified or corrected by the Project Operator and all issues were closed by appropriate responses by TreeFolks and City Forest Credits.

## 6 VERIFICATION RESULTS AND CONCLUSION

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This verification of the Reforesting Austin's Parks and Riparian Zones for the Year 4 interval 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 verified GHG emissions removals for the Project for Year 4 credit issuance. These City Forest Carbon Forward Removal Credits are ex-ante credits based on forecasted removals and subject to multiple safeguards, including sampling, and which convert to ex-post at Year 26.

**Table 1a. Project GHG Removals – Single Tree**

<b>Project Name</b>	<b>GHG Removals Attributed to the Project (mtCO<sub>2</sub>e)</b>	<b>GHG Removals After Deductions for Mortality (20%) (mtCO<sub>2</sub>e)</b>	<b>GHG Removals After Deductions for Reversal Pool Account (5%) (mtCO<sub>2</sub>e)</b>	<b>City Forest Carbon Forward Removal Credits to be Issued to Project (mtCO<sub>2</sub>e)</b>
Reforestation Austin's Parks and Riparian Zones – Year 4	134	107	102	41

**Table 1b. Project GHG Removals – Canopy**

<b>Project Name</b>	<b>GHG Removals Attributed to the Project (mtCO<sub>2</sub>e)</b>	<b>GHG Removals After Deductions for Mortality (mtCO<sub>2</sub>e)</b>	<b>GHG Removals After Deductions for Reversal Pool Account (5%) (mtCO<sub>2</sub>e)</b>	<b>City Forest Carbon Forward Removal Credits to be Issued to Project (mtCO<sub>2</sub>e)</b>
Reforestation Austin's Parks and Riparian Zones – Year 4	411	N/A	390	156

**Table 2a. Ecosystem Co-Benefits Per Year After 25 Years – Single Tree**

<b><i>Ecosystem Services</i></b>	<b><i>Resource Units</i></b>	<b><i>Value</i></b>
Rainfall Interception (m <sup>3</sup> /yr)	468.28	\$1,224.69
Air Quality (t/yr)	-0.0126	-\$197.30
Cooling – Electricity (kWh/yr)	3,728.97	\$283.03
Heating – Natural Gas (kBtu/yr)	14,455.96	\$150.20
<b>Grand Total (\$/yr)</b>		<b>\$1,460.62</b>

**Table 2b. Ecosystem Co-Benefits Per Year After 25 Years – Canopy**

<b><i>Ecosystem Services</i></b>	<b><i>Resource Units</i></b>	<b><i>Value</i></b>
Rainfall Interception (m <sup>3</sup> /yr)	387.49	\$1,013.51
Air Quality (t/yr)	0.0865	\$209.08
Cooling – Electricity (kWh/yr)	19,712.35	\$1,496.17
Heating – Natural Gas (kBtu/yr)	10,339.88	\$107.44
<b>Grand Total (\$/yr)</b>		<b>\$2,826.19</b>



**Verifier Signature**

A handwritten signature in black ink, appearing to be 'ASJ' followed by a stylized flourish.

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**Dan Hintz**