



# Tree Planting Protocol

Version 10 | February 7, 2022

---

## Appendix B Validation and Verification



Urban Forest Carbon Registry, City Forest Credits, a 501(c)(3) non-profit organization  
999 Third Ave. #4600  
Seattle, WA 98104  
info@cityforestcredits.org

*Copyright © 2016-2022 Urban Forest Carbon Registry and City Forest Credits. All rights reserved.*

## TABLE OF CONTENTS

1. Verification .....	4
2. Validation .....	5
3. Verification for Issuance of Credits - Single Tree Quantification Method .....	6
4. Verification for Issuance of Credits - Clustered Quantification Method.....	10
5. Verification for Issuance of Credits - Area Reforestation Quantification Method .....	14
6. Guidance on Specific Elements of Verification .....	15
6.1 Location .....	15
6.2 Ownership or Eligibility to Receive Potential Credits .....	15
6.3 Project Commencement.....	15
6.4 Additionality .....	15
6.5 CO <sub>2</sub> and Co-Benefit Quantification Tool Review.....	15
6.6 Attestation of Planting and Planting Affirmation .....	16
6.7 Attestation of No Double Counting and No Net Harm.....	16
7. Completing Verification .....	16

## 1. Verification

The Registry will retain a qualified and approved Validation and Verification Body (VVB) to verify compliance with this Protocol per the requirements set forth in Protocol Section 12 and per International Standards Organization 14064-3.

The Registry will retain a qualified and approved Validation and Verification Body (VVB) to verify compliance with this Protocol per the requirements set forth herein and per International Standards Organization 14064-3 and in Appendix B, “Verification.” Specifically, the Registry adopts and utilizes the following standards from ISO 14064-3:

- Upon receiving a completed Project Design Document with data on eligibility, quantification of carbon, and a request for credits, the Registry will retain a VVB to verify the project’s compliance with this Protocol. The Registry will be independent of specific project activities.
- Verification by a VVB is described in more detail below. Urban forest projects, unlike many other types of carbon offset projects, will be conducted in and around urban areas, by definition. The trees in urban forest projects will be visible to virtually any resident of that urban area, and to anyone who cares to examine project trees.
- The Registry will maintain independence from the activities of projects and will treat all projects equally with regard to verification.
- The Registry requires a reasonable level of assurance in the accuracy the asserted GHG removals.
- The verification items identified in Appendix B and the following sections 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.
- The Registry will follow a process for follow-up and maintenance for consistency and continuity. This process will consist of a validation by the Registry to ensure that the Verification Report for each Project is consistent with the Project Documents submitted by the Project Operator.
- Appendix B contains requirements for geocoded photographs, imaging, data, or similar landmarking that provides verification of the Project Operator’s data on quantification.
- Project Operators may use data from management or maintenance activities regularly conducted if the data was collected within 12 months of the project’s request for credits.

Credits issued prior to completion of the 26-year project period will be subject to the Reversal Requirements set forth in Protocol Section 8.

## 2. Validation

The Registry shall conduct validation activities at three times.

### A. Pre-Application

Before reviewing an application, the Registry conducts a validation screening:

- Validate eligibility under the protocol eligibility requirements
- Validate the Project Operator’s understanding of the commitments it must make if it proceeds with the project:
  - Complying with the Protocol
  - Submitting project documents, including a Project Implementation Agreement with Registry
  - Quantifying carbon dioxide and ecosystem co-benefits according to the appropriate methodology
  - Conducting monitoring and reporting for the Project Duration

### B. Before Third-Party Verification

Upon submittal of a final Project Design Document (PDD) and before third-party verification, the Registry will:

- Review the PDD and its supporting documents for:
  - Compliance with Protocol PDD requirements
  - Demonstration that the project meets the Protocol eligibility requirements

### C. After Receiving the Verification Report

When the third-party verifier produces its Verification Report, the Registry then reviews that Report to ensure the following:

The Verification Report accurately reflects the documentation contained in the PDD and supporting documents.

The Registry shall document its validation activities in a written report that shall be posted publicly with other project documents.

### 3. Verification for Issuance of Credits - Single Tree Quantification Method

Table C.1 displays the various verification requirements to be performed upon request by a Project Operator for credits under Section 10 of the Tree Planting Protocol.

Table C.1

<b>Item</b>	<b>Elements to Verify</b>	<b>Protocol Section</b>	<b>How</b>
1	Project Operator Identity	1.1	State/local records
2	Project Implementation Agreement (PIA)	1.3	Signed/received
3	Location	1.3	Mapping/location data
4	Ownership or Eligibility to Receive Potential Credits	1.7	Signed Attestation of Land Ownership or Agreement to Transfer Credits
5	Legal Requirements Test	1.8	Signed PIA and ordinances
6	Commencement	2.4	Project documentation
7	Project Documentation	6	Confirm all documents
8	Project Duration	5	Signed PIA
9	Additionality	4	Attestation of Additionality
10	Performance Standard Baseline	Standard	Attachment to PDD
11	No Net Harm and No Double Counting	5	Attestation of No Double Counting Credits and No Net Harm
12	Credit Quantification	10, Appendix A	
	<i>After Planting:</i>		

	A. Initial quantification tool including data collection for trees with species, location via GPS or address, and date planted		Check appropriate quantification tool
	B. Attestation of Planting		Signed Attestation of Planting, including invoices and images
	C. Attestation of Planting Affirmation		Signed Attestation of Planting Affirmation
	<i>At Year 4 and 6:</i>		
	A. Accuracy of Process and Quantification Documents:		Check appropriate quantification tool
	1. Sample size calculations		Check appropriate quantification tool
	2. Randomization of sample		Check appropriate quantification tool
	3. Calculations		Check appropriate quantification tool
	4. Integrity of spreadsheet		Check appropriate quantification tool
	B. Field Data and Inputs into Spreadsheets:		
	1. Data from sampled trees		Geocoded photos or imaging of sampled trees
	2. Data input accuracy		Check inputs
	<i>At Year 14:</i>		
	A. Accuracy of Process and Quantification Documents:		Check appropriate quantification tool

	1. Sample size calculations		Check appropriate quantification tool
	2. Randomization of sample		Check appropriate quantification tool
	3. Calculations		Check appropriate quantification tool
	4. Integrity of spreadsheet		Check appropriate quantification tool
	B. Field Data and Inputs into Spreadsheets:		
	1. Data from sampled trees, measure DBH		Geocoded photos or imaging of sampled trees
	2. Data input accuracy		Check inputs
	<i>At Year 26:</i>		
	Accuracy of Process and Quantification Documents:		Check appropriate quantification tool
	Sample size calculations		Check appropriate quantification tool
	Randomization of sample		Check appropriate quantification tool
	Calculations		Check appropriate quantification tool
	Integrity of spreadsheet		Check appropriate quantification tool
	Field Data and Inputs into Spreadsheets:		
	Data from sampled trees, measure DBH		Geocoded photos or imaging of sampled trees



---

	Data input accuracy		Check inputs
13	Co-Benefit Quantification		Check appropriate quantification tool
14	Reversal Pool Account Deduction	8	Ensure Reversal Pool Account Deduction before Project Operator's GHG mitigation assertion

#### 4. Verification for Issuance of Credits - Clustered Quantification Method

Table C.2 displays the verification requirements to be performed upon request by a Project Operator for credits using the Clustered Quantification.

Table C.2

Item	Elements to Verify	Protocol Section	How
1	Project Operator Identity	1.1	State/local records
2	Project Implementation Agreement (PIA)	1.3	Signed/received
3	Location	1.3	Mapping/location data
4	Ownership or Eligibility to Receive Potential Credits	1.7	Signed Attestation of Land Ownership or Agreement to Transfer Credits
5	Legal Requirements Test	1.8	Signed PIA and ordinances
6	Commencement	2.4	Project documentation
7	Project Documentation	6	Confirm all documents
8	Project Duration	5	Signed PIA
9	Additionality	4	Attestation of Additionality
10	Performance Standard Baseline	Standard	Attachment to PDD
11	No Net Harm and No Double Counting	5	Attestation of No Double Counting Credits and No Net Harm
12	Credit Quantification	10, Appendix A	
	<i>After Planting:</i>		
	D. Initial quantification tool including data collection for trees with species, location via GPS or address, and date planted		

	E. Mapping and boundaries for the area planted		Check map and boundaries of Project Area showing trees planted
	F. Attestation of Planting		Signed Attestation of Planting, including invoices and images
	G. Attestation of Planting Affirmation		Signed Attestation of Planting Affirmation
	<i>At Year 4:</i>		
	C. Accuracy of Process and Quantification Documents:		Check appropriate quantification tool
	5. Sample size calculations		Check appropriate quantification tool
	6. Randomization of sample		Check appropriate quantification tool
	7. Calculations		Check appropriate quantification tool
	8. Integrity of spreadsheet		Check appropriate quantification tool
	D. Field Data and Inputs into Spreadsheets:		
	1. Imaging of Project Area with leaf-on to calculate percent of tree canopy cover		Confirm canopy coverage equals or exceeds 2.8% (400 trees per acre with an average canopy area of 3.14 square feet per tree (2-foot diameter of canopy))
	<i>At Year 6:</i>		
	Accuracy of Process and Quantification Documents:		Check appropriate quantification tool
	Sample size calculations		Check appropriate quantification tool

	Randomization of sample		Check appropriate quantification tool
	Calculations		Check appropriate quantification tool
	Integrity of spreadsheet		Check appropriate quantification tool
	Field Data and Inputs into Spreadsheets:		
	Imaging of Project Area with leaf-on to calculate percent of tree canopy cover		Confirm canopy coverage equals or exceeds 11.5% (400 trees per acre with an average canopy area of 12.56 square feet per tree (4-foot diameter of canopy)
	<i>At Year 14:</i>		
	Accuracy of Process and Quantification Documents:		Check appropriate quantification tool
	Sample size calculations		Check appropriate quantification tool
	Randomization of sample		Check appropriate quantification tool
	Calculations		Check appropriate quantification tool
	Integrity of spreadsheet		Check appropriate quantification tool
	Field Data and Inputs into Spreadsheets:		
	Imaging of Project Area with leaf-on to calculate percent of tree canopy cover		Confirm canopy coverage equals or exceeds 46% (400 trees per acre with an average canopy area of 50 square feet per tree (8-foot diameter of canopy)

	At Year 26:		
	Accuracy of Process and Quantification Documents:		Check appropriate quantification tool
	Sample size calculations		Check appropriate quantification tool
	Randomization of sample		Check appropriate quantification tool
	Calculations		Check appropriate quantification tool
	Integrity of spreadsheet		Check appropriate quantification tool
	Field Data and Inputs into Spreadsheets:		
	Imaging of Project Area with leaf-on to calculate percent of tree canopy cover		Confirm canopy coverage equals 100% of the Project Area at project outset
13	Co-Benefit Quantification		Check appropriate quantification tool
14	Reversal Pool Account Deduction	8	Ensure Reversal Pool Account Deduction before Project Operator’s GHG mitigation assertion

## 5. Verification for Issuance of Credits - Area Reforestation Quantification Method

Table C.3 displays the verification requirements to be performed upon request by a Project Operator for credits using the Area Reforestation Quantification Method.

Table C.3

Item	Elements to Verify	Protocol Section	How
1	Project Operator Identity	1.1	State/local records
2	Project Implementation Agreement (PIA)	1.3	Signed/received
3	Location	1.3	Mapping/location data
4	Ownership or Eligibility to Receive Potential Credits	1.7	Signed Attestation of Land Ownership or Agreement to Transfer Credits
5	Legal Requirements Test	1.8	Signed PIA and ordinances
6	Commencement	2.4	Project documentation
7	Project Documentation	6	Confirm all documents
8	Project Duration	5	Signed PIA
9	Additionality	4	Attestation of Additionality
10	Performance Standard Baseline	Standard	Attachment to PDD
11	No Net Harm and No Double Counting	5	Attestation of No Double Counting Credits and No Net Harm
12	Credit Quantification	10, Appendix A	See Appendix A for details
13	Co-Benefit Quantification		Check appropriate quantification tool
14	Reversal Pool Account Deduction	8	Ensure Reversal Pool Account Deduction before Project Operator's GHG mitigation assertion

## 6. Guidance on Specific Elements of Verification

Although the Registry reviews eligibility criteria upon initial application, this early review is not a verification review and does not suffice for issuance of credits. The following gives guidance for select eligibility criteria.

### 6.1 Location

Projects must occur within the locations specified in Section 1.4 of the Protocol. Verification can include review the Project Operator's designation of parcel numbers, addresses, or other indications of property location with reference to maps, KLM files, images from Google Earth or other reliable imaging sources.

### 6.2 Ownership or Eligibility to Receive Potential Credits

Verification includes review of the signed Attestation of Ownership and Right to Receive Credits, or, if the Project Operator does not own the land upon which project trees are planted, the Agreement to Transfer Potential Credits from the owner to the Project Operator. Verification entails a risk-based review that requires further review in any cases of lack of clarity or detail.

### 6.3 Project Commencement

Verification includes confirmation of the commencement date, and in the Registry's database, plus confirmation that the commencement date meets the requirements of Section 7 of the Protocol.

### 6.4 Additionality

Verification requires review of the Project Design Document Statement on Additionality, including the Attestation of Additionality, Legal Requirements Test (Protocol Section 1.8), review of a Project-Specific Baseline or Performance Standard Baseline attached to the Project Design Document, and review of the Project Implementation Agreement that requires a 26-year Project Duration. Further review of local ordinances of laws may be required to give a reasonable assurance that this requirement has been met.

### 6.5 CO<sub>2</sub> and Co-Benefit Quantification Tool Review

A critical component of verification includes review of the Project Operator's planting data and completion of other data required to complete the mortality assessment or quantification of CO<sub>2</sub>. Appendix A details the requirements for each quantification method.

## 6.6 Attestation of Planting and Planting Affirmation

The following verification data is required.

- a. Attestation of Planting: a statement by the Project Operator that includes the following, with any supporting documentation:
  - Dates of planting
  - Number of trees planted by species
  - Invoices for trees planted, or invoices or a statement from the party who funded the tree purchase or supplied the trees attesting to the number of trees purchased, or any other reliable estimate of trees planted
  - Geo-coded photos of the tree stock and planting event(s)
- b. Attestation of Planting Affirmation confirms that:
  - They have attended at least one planting event for the project and has verified from the planting schedule that any other scheduled planting events occurred
  - They have reviewed the data from the Attestation of Planting and confirm that it accurately reflects their own observations of planting activities

## 6.7 Attestation of No Double Counting and No Net Harm

Verification requires review of the signed Attestation of No Double Counting and No Net Harm.

## 7. Completing Verification

A verification report must be completed in order for credits to be issued. That report and statement must include:

- a. Findings of the verifier as to each element in Table C.1 ,C.2, and C.3.
- b. A verification statement that supports the GHG assertion contained in the Project Operator’s appropriate spreadsheet and that states the number of credits that can be issued.