VALIDATION & VERIFICATION REPORT

American Carbon Registry

ACR424

Albany Water Board – Improved Forest Management Project

Reporting Period:
1 October 2017 to 1 July 2018

Prepared for:
Spatial Informatics Group

29 August 2019

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Project Title	Albany Water Board – Improved Forest Management Project
Client	Spatial Informatics Group
Project Location	Albany, New York
Reporting Period	1 October 2017 to 1 July 2018
Prepared by	SCS Global Services (SCS)
Date of Issue	23 August 29, 2019
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Audit Team	Lead Auditor: James Cwiklik, Verification Forester Verifier: Michael Hoe, Verification Forester RPF#3058 Technical Reviewer: Zane Haxtema, Senior Verification Forester

Summary

SCS Global Services (SCS) has performed the validation and verification of Albany Water Board – Improved Forest Management ("the Project") developed by the Nature Conservancy ("the Project Proponent"). This assessment covers the Project's greenhouse gas emission reductions reported to the American Carbon Registry (the Registry or ACR) for the reporting period 1 October 2017 to 1 July 2018. This report presents the validation and verification process, the findings raised during the assessment, and the conclusion reached by SCS.

This validation and verification was undertaken to evaluate the representations provided in the project plan and monitoring report and assess whether the compiled data conforms to the assessment criteria. The evaluation was undertaken using the ACR Standard, Version 5.0 (July 2018), Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3 (April 2018), November 2010, and the ACR Validation and Verification Standard, Version 1.1 (May 2018).

In the course of this assessment the SCS verifiers developed findings which included New Information Requests (NIRs), Non-Conformity Reports (NCRs) and Observations (OBSs). During this verification 24 findings were issued: 15 NCRs, 7 NIRs, and 2 OBSs. These findings are described in Appendix C. All NCRs and NIRs have been adequately responded to, resulting in their closure. OBSs are potential non-conformances that have been memorialized for future verifications.

SCS verified the adequacy of the information provided in the project plan and monitoring report, confirming that these documents meet the requirements of the assessment criteria. On the basis of the information made available to SCS and the analyses completed, SCS was able to reach a positive opinion, with a reasonable level of assurance, that the claimed emission reductions and removals presented by Spatial Informatics Group meets the requirements of ACR. Thus, SCS has verified 29,094 metric tons of CO_2e reductions and removals from the Albany Water Board – Improved Forest Management for the reporting period of 1 October 2017 to 1 July 2018.

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1 Introduction

SCS Global Services (SCS) is a global leader in third-party certification, auditing, testing services, and standards. Established as an independent third-party certification firm in 1984, our goal is to recognize the highest levels of performance in environmental protection and social responsibility in the private and public sectors, and to stimulate continuous improvement in sustainable development. In 2012, Scientific Certification Systems, Inc. began doing business as SCS Global Services, communicating its global position with offices and representatives in over 20 countries. SCS is currently accredited to ISO 14065 for GHG Validation and Verification by the American National Standards Institute (ANSI) and offers carbon offset project validation and verification under the Verified Carbon Standard (VCS) and the American Carbon Registry (ACR). SCS also offers carbon offset verification under the Climate Action Reserve (CAR) and the Climate, Community and Biodiversity (CCB) standards.

SCS was commissioned by Spatial Informatics Group to undertake the initial project validation and verification of the Albany Water Board – Improved Forest Management Project. The project is located on 4,439 acres of forest land with northern conifers and hardwoods. The property is owned by the city of Albany. The forestland has been used for conservation to protect drinking water supply. This report covers the verification period of 1 October 2017 to 1 July 2018 as a project deliverable into the American Carbon Registry.

1.1 Project Description

The project area is located in Albany, New York. The overall goals and objectives of the project proponent (Nature Conservancy) is to continue protecting the reservoirs that the project forestland surrounds. In addition to protecting the primary source of Albany's drinking water, the forests also serve as a habitat for a wide range of species, including bald eagles and other rare and threatened species.

The forest management on the project involve the implementation of a Forest Stewardship Council (FSC) certified sustainable forest management practices. These practices focus on maintaining forest health and structural diversity at the stand level while encouraging ecosystem and wildlife diversity at the project level. The aim of the project is to ensure long-term environmental benefits provided by the conservation of the forests. The proposed project activities will lead to significant increases in the carbon storage and conservation value relative to typical private forest management in the region. Typical forest management practices in the area focus on short rotation clearcuts, especially in industrial management scenarios.

Another aspect of the project is to conserve the integrity of the landscape by avoiding urban development as well as industrial forest management scenarios. The project will also improve forest health through the implementation of sustainable forest management practices. The drinking water will be protected by avoiding development and harvest activities which would result in erosion. The additional revenue will help support the sustainable forest management activities.

The project will provide climate benefits by achieving GHG reductions through its commitment to maintaining its forest's CO2 stocks above the locally observed industrial management levels. The sustainable management will also include a reduction in harvesting levels. The management actions will allow the forestlands to mature naturally with light commercial harvesting focusing on improving forest health. The project is also implementing a conservation easement for wildlife habitat and water quality protection to compliment and ensure the permanence of the GHG reductions and co-benefits.

1.2 Audit Team

The SCS audit team consisted of the following individuals:

Lead Verifier and Cruiser: James Cwiklik, SCS Global Services, Verification Forester

Mr. Cwiklik holds a Masters of Forestry from Michigan Technological University. He completed his undergraduate work at the University of Pittsburgh, receiving a B.A. in Environmental Studies, with a minor in Religious Studies and a certificate in Geographic Information Systems. Previously he has been a Lead Consulting Forester with Davey Tree's Resource Division supervising a team of foresters for Pacific Gas and Electric's (PG&E) Community Pipeline Safety Initiative (CPSI) project. Mr. Cwiklik is a certified Arborist and has contributed to the efforts of eradicating the Asian long horned beetle in southwestern Ohio as an Inventory Arborist and Quality Control Specialist. He has also worked with the Michigan Department of Natural Resources as a Forest Technician Crew Leader to lead forest inventories across northern Michigan with an emphasis on the spread of emerald ash borer and beech bark disease. Since joining SCS in February 2018, he has conducted multiple site visits under different standards to assist with data collection, analysis, and field training.

Verifier: Michael Hoe, SCS Global Services, Verification Forester

Mr. Hoe has a M.S. in Sustainable Forest Management, with a minor in Forest Biometrics, from Oregon State University, where he also received his B.S. As a Graduate Research Assistant for OSU he organized a field crew and measurement protocol to obtain high quality field data. Previously he served as a Forester with Mason, Bruce, & Girard Inc., assisting with project management, quality control, and timber cruising in the Pacific Northwest and California. Mr. Hoe has also conducted research with the Bureau of Land Management, obtaining data on tree growth and damage through extensive field work. In addition, he has taught Forest Mensuration and plans to publish two papers on quantifying post-fire basal area mortality with multi-temporal LiDAR. Mr. Hoe is a lead verifier with SCS and has conducted several forestry verifications. During his time with SCS, he has proven to be a well-rounded carbon auditor, possessing a full gamut of technical expertise ranging from forest biometrics, growth and yielding modeling, and timber cruising. Mr. Hoe is based in Eugene, Oregon.

Independent Reviewer: Zane Haxtema, SCS Global Services, Senior Verification Forester

Mr. Haxtema holds a M.S. in Forest Resources from Oregon State University (Corvallis, Oregon, USA) and a B.S. from The Evergreen State College (Olympia, Washington, USA). A well-rounded forestry professional, Mr. Haxtema held a wide variety of positions in forest research and management before coming to SCS, ranging from work on logging and tree planting crews to experience as a wildland firefighter and research assistant. A specialist in natural resource inventory, Mr. Haxtema holds significant expertise in sampling design, inventory management and growth modeling. Mr. Haxtema is well versed in a wide variety of

methodological approaches for carbon accounting, having served as a lead auditor on a wide variety of projects under the Climate Action Reserve, the Verified Carbon Standard and the Climate, Community and Biodiversity Standards.

2 Assessment Details

2.1 Assessment Objectives

The objectives of validation are to evaluate:

- Conformance of the submitted Project Plan and Project Monitoring Report with the assessment criteria;
- GHG emissions reduction project planning information and documentation in accordance with the applicable methodology, including the project description, baseline, monitoring and reporting procedures, and quality assurance/quality control (QA/QC) procedures;
- Reported GHG baseline, *ex-ante* estimated project emissions and emission reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable).

The objectives of verification are to evaluate:

- Reported GHG baseline, project emissions and emission reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable);

2.2 Scope and Criteria

The scope of this assessment will be defined as the following:

- Assessment of the management systems, data handling and estimation methods used in calculating and reporting emissions data;
- Assessment of baseline methodology and determination;
- Assessment of and issuance of an opinion on issues of leakage and additionality;
- Assessment of data accuracy and any assumptions made in the manipulation of that data;
- Validation that the organization is operating according to the methodology approved by ACR;
- Determine whether the project could reasonably be expected to achieve the claimed GHG reduction/removals;
- Assessment of completeness of the inventory;
- Verification of emissions reductions and removals reported;
- Verification of the project boundaries and continuance;
- Verification that a measurement and monitoring system is in place that is capable of delivering high quality carbon stock data;

- Verification that the organization is operating according to the methodology approved by the ACR;
- Verification that the carbon stocks reported are real; and
- Conclusions developed on the declared tonnage for registration in ACR.
- The GHG sources, sinks and/or reservoirs that are applicable to the Project:
    - Baseline:
        - Above-ground biomass carbon
        - Below-ground biomass carbon
        - Standing dead wood
        - Harvested wood products
    - Project:
        - Above-ground biomass carbon
        - Below-ground biomass carbon
        - Standing dead wood
        - Harvested wood products
        - Market effect leakage
- The reporting period: 1 October 2017 to 1 July 2018

SCS conducted the verification assessment of the project and project documentation against the following criteria:

- American Carbon Registry Standard, Version 5.0 (February 2018)
- ACR Approved Methodology: Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3 (April 2018)
- ACR Validation and Verification Standard v1.1 (May 2018)

As an ANSI-accredited verification body, SCS conducted the verification to the requirements of:

- American Carbon Registry Validation and Verification Standard, Version 1.1
- ISO 14064-3: 2006, Greenhouse Gases – Part 3: Specification with guidance for the validation and verification of GHG assertions

2.3 Level of Assurance and Materiality

SCS performed the assessment activities to a **reasonable level** of assurance in accordance with the assessment criteria. Reasonable assurance is attained by examining a sufficient amount of information, through document review, site visits, and interviews with personnel involved in the execution of the Project. SCS applied a materiality threshold of ***±5%***; meaning, the reported emissions were free of material

misstatements, omissions, and errors achieving a minimum level of at least 95% accuracy, in accordance with ACR's materiality threshold.

3 Validation and Verification Process

3.1 Method and Criteria

SCS performed the validation and verification through a combination of document reviews, interviews with relevant personnel, and on-site inspections, as discussed in Section 3.3 through 3.6 of this report. At all times SCS assessed the Project's conformance to the criteria described in Section 2.2 of this report. As discussed in Section 3.6, the audit team issued findings to ensure that the project fully conformed to all requirements. The validation and verification activities included the following:

- Conflict of interest review and appointment of team;
- Kick-off meeting with The Nature Conservancy, City of Albany Water Department, and Spatial Informatics Group;
- Conducting a document review including the GHG Project Plan, and supporting data;
- Development of the verification and sampling plan;
- Site visits and execution of the sampling plan;
- Review and evaluation of raw data and emission reduction calculations;
- Follow-up of non-conformities and new information requests as needed; and
- Final statement and report development.

3.2 Assessment Summary

The validation and verification process consisted of the following:

1. **Project listed with the ACR**:
   The Albany Water Authority, New York IFM Project is listed on the Registry website (27 June 2018). Spatial Informatics Group selected SCS as their verification body.

2. **Conflict of Interest Review**.
   The conflict of interest assessment was conducted by SCS to identify any potential conflicts for the audit team and the COI form was submitted to ACR. No conflicts were identified and a determination of low potential for conflict of interest was received from ACR on 22 March 2018 prior to the commencement of verification activities.

3. **Appointment of Audit Team**
   This validation and verification was performed by James Cwiklik, SCS Lead Verifier, and reviewed by Zane Haxtema, SCS Internal Reviewer. Michael Hoe supported the Lead Verifier during verification services. James Cwiklik, Michael Hoe, and Zane Haxtema are lead verifiers approved by SCS.

4. **Project Kick-Off Meeting**
   A kick-off meeting was conducted between the verification team, Gary Roller, Charles Kerchner, and Paul Cousar on 16 July 2018. The purpose of the meeting was to review the scope of validation/verification criteria; review the logistics of the site visit; review the timeline of the audit; discuss any changes in the project related to the site, sources, GHG management systems; and to begin the information gathering process.

5. **Desk Review**
   SCS received and reviewed the project plan and supporting documentation. A risk assessment was conducted to identify key factors that impact the reported emission reductions and removals. An Audit Plan was designed to review all project elements in areas of high risk of inaccuracy or non-conformance.

6. **Site Visit**
   A site visit was conducted by the audit team on 30 July 2018 to 1 August 2018. The purpose of the site visit is to verify the project equipment, location and eligibility; to review and evaluate the project GHG management systems, data collection and handling, and emission reduction calculations and procedures in place; to assess the qualifications of relevant personnel; and to finalize the risk assessment and sampling plan.

7. **Quantitative Review**
   An assessment of the emission reduction calculation inputs and procedures was performed to review the quantitative analyses undertaken by Spatial Informatics Group to convert the raw inventory data into emission reduction estimates.

8. **Findings**
   Throughout the verification, there is an iterative exchange between SCS and Spatial Informatics Group to gather additional information for review and examination. This exchange includes the issuance of Findings—New Information Requests (NIR), Non-Conformity Reports (NCR) and Observations (OBS) — by SCS. The Project Proponent must respond to NIRs and NCRs in order for SCS to render a verification opinion. At this time all Findings have been appropriately addressed by Spatial Informatics Group and subsequently closed by SCS. See section 3.5 for more information.

9. **Draft Report and Statement**

This step in the verification process includes a final review of the submitted data, completion of the Verification Report, and drafting of the Verification Statement. A draft Verification Report and Statement are completed based on the results of the verification assessment.

10. **Technical Review**
    The draft report was presented to an SCS lead verifier, independent of the verification, who determined the Verification Statement to be justified given the evidence presented. The Verification Report and Verification Statement were then presented to Spatial Informatics Group for review and comment.

11. **Final Report and Opinion**
    Once Spatial Informatics Group approved these documents, SCS uploaded them to the Registry website for administrative review by ACR. Given a positive review, ACR will register the emissions reductions for the project and issue carbon tonnes for a reporting period of 1 October 2017 to 1 July 2018.

12. **Exit meeting with client:**
    The exit meeting entails a review of the assessment process, summary of the verification findings, and to initiate scheduling for the next verification period.

3.3 Document Review

SCS conducted a document review to inform the planning process prior to validation and verification activities. SCS carefully reviewed the initial GHG Project Plan (the "Plan") for conformance to the assessment criteria. The audit team also reviewed subsequent copies of the Plan as it was updated by Spatial Informatics Group in response to findings issued by the team throughout the validation and verification process. A list of other documentation reviewed by the audit team is provided in Appendix B.

The validation and verification process is a risk based assessment aimed at identifying key factors that impact the reported emission reductions and removals. As a result of the document review and correspondence with project personnel, an audit plan and a sampling plan were developed for this engagement. An audit agenda was submitted prior to the site visit. SCS assessed the GHG Project Plan with actual project conditions, reviewed the baseline and project scenarios, assessed the eligibility, additionality, GHG emission reduction assertion and the underlying monitoring data to determine if either contained material or immaterial misstatements. The results of these reviews are discussed in greater detail below.

3.4 Interviews

Interviews constituted an important component of the audit process to help the audit team better understand the dynamics of the Project, the activities implemented in the Project, and how the reductions were real and accurate. The audit team interviewed the following personnel associated with the project proponent and any implementing partners. The phrase "Throughout audit" under "Date Interviewed"

indicates that the individual in question was interviewed on multiple occasions throughout the audit process.

Individual	Affiliation	Date Interviewed
Gary Rooler **Paul Cousar** **Shane Romsos**	Spatial Informatics Group, LLC	Throughout the audit
Justin Miller	Green Timber Consulting	30 July 2018 to 1 August 2018 (site visit)
Amy Walsh	Albany Water Quality	30 July 2018 to 1 August 2018 (site visit)
Gabriel Chapin	The Nature Conservancy	30 July 2018 to 1 August 2018 (site visit)

3.5 Site Inspections

The objectives of the performed on-site inspection were to:

- Confirm the validity of the statements made in the Plan and associated project documentation;
- Interview project personnel to determine if the Plan correctly identifies project activity and assess project personnel competencies;
- Select samples of data from on-the-ground measurements for verification in order to meet a reasonable level of assurance and to meet the materiality requirements of the Project; and
- Perform a risk-based review of the project area to ensure that the Project is in conformance with the eligibility requirements of the validation/verification criteria.

In fulfilment of the above objectives, the audit team conducted an on-site inspection on 30 July 2018. The audit team performed an in-depth assessment of the conformance of the Project to the assessment criteria. The inspection included the review of records and discussing the project activities. While touring the project area, the audit team visually observed posted boundary signs, old fence lines, and other objects for reference/boundary trees.

3.6 Resolution of Any Material Discrepancy

The Project Proponent and audit team resolved any potential or actual material discrepancies identified during the assessment process through the issuance of findings. SCS characterizes the types of findings it issued as follows:

Non-Conformity Report (NCR): An NCR signified a material discrepancy with respect to a specific requirement. This type of finding could only be closed upon receipt by SCS of evidence indicating that the

identified discrepancy had been corrected. Resolution of all open NCRs was a prerequisite for issuance of a positive statement.

New Information Request (NIR): An NIR signified a need for supplementary information in order to determine whether a material discrepancy existed with respect to a specific requirement. Receipt of an NIR did not necessarily indicate that the Project was not in compliance with a specific requirement. However, resolution of all open NIRs was a prerequisite for issuance of a positive statement.

Observation (OBS): An OBS indicated an area that should be monitored or ideally, improved upon. OBSs were considered to be an indication of something that could become a non-conformity if not given proper attention, and were sometimes issued in the case that a non-material discrepancy was identified. OBSs were considered to be closed upon issuance.

All NCRs and NIRs issued by the audit team during the assessment process have been closed. Appendix C lists all findings issued during the validation and verification process.

4 Validation and Verification Assessment

4.1 Project Design

4.1.1 Project Proponent

As indicated within the ACR GHG Project Plan Eligibility Screening form, the Project Proponent is the Nature Conservancy. The Plan indicates that the ACR account holder is Spatial Informatics Group, which SCS confirmed by reviewing the ACR website.

4.1.2 Project Title

The GHG Plan notes the Project title as the *"Albany Water Board - Improved Forest Management Project"*.

4.1.3 Project Type

The GHG Plan notes the Project type as Improved Forest Management. The Project follows the approved ACR methodology: Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3 (2018), as stated in the GHG Plan.

4.1.4 Location

The GHG Plan indicates the Project site as 4,439 acres of forested land in Albany, New York. The project is owned by the city of Albany, Water Authority. SCS confirmed the Project Location during the site visit by sampling plots, observing physical boundaries and landmarks, and assessing the Project Area via aerial imagery using GIS software. This meets the requirement that the Project be located in the United States.

4.1.5 Project Summary and Action

SCS confirmed the GHG Plan included a brief summary of the Project including the Project action. This project is owned by the city of Albany Water Authority located in New York state. The landscape within the project area and surrounding Basic Creek Reservoirs contain large blocks of unfragmented forest. The forests are a mix of different northern hardwoods and conifers including hemlock, yellow birch, sugar maple, northern red oak, sycamore, river birch, balsam fir, ash, and red pine. Wetlands are also present on the property and consist of open water (the reservoirs themselves) and herbaceous wetlands.

The project will achieve GHG reductions through its commitment to maintaining it forest CO_2 stocks above the locally observed industrial management levels. This will be achieved through a change in the harvesting levels, specifically lowering harvesting levels at the per acre level as well as the total project annual level. These actions and commitment result in the forest's carbon sequestration and providing climate benefits.

Forest management actions will allow the forestlands to mature naturally with sustainable light commercial harvesting with a focus on forest health. The property is covered by a Forest Stewardship Council (FSC) certification and conservation easement. Wildlife habitat and water quality protection are meant to ensure the permanence of the project.

4.1.6 Ex Ante Offset Projection

The Project Proponent provided ex-ante estimations of the baseline emissions avoided per each vintage of emission reductions, which SCS verified in its evaluation of data and calculations. See Section 4.3 below.

4.1.7 Scope

The Project is an Improved Forest Management project, as defined by ACR, within the Land Use Change and Forestry sector as defined by the methodology: Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3 (April 2018). The Project complies fully with the criteria as set out in Section A.1 of the methodology.

4.1.8 Parties

SCS confirmed the GHG Project Plan contained the necessary list of parties and details of those roles.

4.1.9 Project Boundary

The Plan contains a description of the physical boundary, which is located in Albany County, New York. This is the physical and geographic site where project activities occur. The audit team confirmed that this boundary was well documented throughout both the document review and site visit activities.

The GHG sources, sinks, and reservoirs associated with the baseline and project scenario are shown in the section 2 above.

The sources, sinks, and reservoirs of GHG emissions within the project boundary are listed in the table below. This is the case for both the baseline and project scenarios.

4.2 Project Applicability & Eligibility

The ACR methodology provides a series of requirements for scope and applicability in Section A.2, in addition to the latest ACR program eligibility requirements as found in the ACR Standard. SCS confirmed that the GHG Project Plan indicates how each applicability condition is met including supplemental requirements stipulated by ACR.

Description	Included / Excluded	Gas	Justification
Above-ground biomass carbon	Included		Major carbon pool subjected to the project activity.
Below-ground biomass carbon	Included		Major carbon pool subjected to the project activity.
Standing dead wood	Included		Major carbon pool in unmanaged stands subjected to the project activity. Project Proponents may elect to include the pool in managed stands. Where included, the pool must be estimated in both the baseline and with project cases. For this Project, standing dead wood will be included in all stands.
Harvested wood product	Included		Major carbon pool subjected to the project activity
Burning of biomass	Included	CH_4	Non-CO2 gas emitted from biomass burning

Applicability Conditions

During the document review and site visit, SCS confirmed that the project scenario consists of maintaining above baseline CO_2 stocks through carbon sequestration. The project is not federally owned. The City of Albany Water Department controls the timber rights of the forestland. They have become FSC certified within one year of the start date. Roughly 1,000 acres of light commercial harvest could take place over the twenty-year project life cycle without reducing the estimate of ERT's. The project is on public, non-federal and non-tribal lands. There are no use of non-native species and no draining on the property.

The project proponent successfully demonstrated that they maintain ownership of timber rights as of the project State Date.

4.2.1 Project Start Date

In accordance with Chapter 3 of the ACR Standard, the start date is defined as the date at which the project began to reduce GHG emissions against its baseline. SCS reviewed the GHG plan to confirm that the Project Activities started at the beginning of this Reporting Period (October 1, 2017). An email was provided from ACR approving this as the Start Date as well. It is the date when forest conservation activities began. SCS concluded that the provided documents supported the project start date listed in the Registry website, and the Project therefore meets the start date eligibility criteria of the ACR Standard.

4.2.2 Minimum Project Term

The minimum term is forty years. SCS confirmed the Project Proponent provided a timeline with a project term of 40 years, with annual monitoring, reporting and verification in the GHG Plan.

4.2.3 Crediting and Reporting Period

In ACR, the eligible crediting period for this type of project is listed as 20 years. SCS has confirmed the crediting period of 20 years, 1 October 2017 to 30 September 2037, was indicated in section H2 of the GHG plan. SCS has concluded that the reporting period verified in this report is within the applicable crediting period of the Project.

4.2.4 Offset Title

The project area is owned by the City of Albany Department of Water. They posses all management and ownership rights. The city holds title to all lands in the project area and all rights to carbon credits/offsets produced. Documentation of ownership has been provided undisputed title to all offsets that are clear, unique, and uncontested. SIG was responsible for calculating the Project's emission reductions, developing the GHG Project Plan, and listing the Project with ACR. Ownership was confirmed through review of the deeds provided, as well as a review of the physical property boundary on site, Albany County tax parcel information, and independently obtained GIS layer of ownership parcels. SCS confirmed that the project proponent retains full, legal, and beneficial title to the carbon offset credits being issued as a result of reductions in emissions from the Albany Water Board – Improved Forest Management Project.

4.2.5 Additionality

The audit team assessed the GHG Project Plan and supporting evidence to determine whether the Project sufficiently passed the approved performance standard, as defined in the applicable methodology, and a regulatory additionality test. The audit team determined that the Project's additionality was demonstrated in accordance with the requirements of the ACR Standard and ACR methodology. The specific evidence provided by the Project Proponent and the validation activities that the audit team performed are described in the sections below.

Regulatory Surplus

The Project Proponent must ensure that emission reductions achieved by the project activities would not have occurred in the baseline case due to federal, state, or local regulations. A regulatory review of the Project was conducted by the audit team. The results of the regulatory review indicated the Project is in compliance with Federal, State and Local regulations. There are no laws, statutes, regulations, court orders, environmental mitigation agreements, permitting conditions, or other legally binding mandates requiring the project activities. SCS reviewed the New York Best Management Practices (BMPs) for Water Quality and found no requirements that the project activities must take place.

SCS reviewed the Attestation of Regulatory Compliance submitted by Troy Weldy dated 1 May 2019 ("Albany Title Ownership and Compliance Attestation - Signed May 2019.pdf"), affirming the Project's compliance status throughout the reporting period. During the site visit and desk review activities, SCS was able to confirm to a reasonable level of assurance that the Project is in compliance with local, state and Federal regulations and had no material regulatory non-conformance events. SCS reviewed the New York State's BMPs, EPA Enforcement & Compliance History Online database (ECHO), and the Occupational Safety and Health Administration (OSHA) for the current Reporting Period and found no evidence of non-compliance.

Lastly, SCS also confirmed the Project's monitoring plan indicated that the Project was in compliance with Federal, State and Local regulations based on this review, SCS concludes the Project met the Regulatory Compliance requirements of the assessment criteria.

Based on its review, SCS determined that the Project Proponent provided clear evidence in the GHG Project Plan that the GHG reduction activity is not required by any applicable and enforced federal, state, or local laws, regulations, ordinances, consent decrees, or other legal arrangements besides as noted above.

Common Practice Test

The Albany Water Board– Improved Forest Management Project provided an attestation stating the similarities exist with the project and nearby water supply lands in the state. The location, size, and ownership type are feasible and not significantly different than that would be found on private lands in the area. Generally, municipal water supply agencies have relative autonomy to determine the best forest management practices based on their needs. The baseline assumptions are possible and justifiable.

Performance Standard

The Albany Water Board - Improved Forest Management project uses the three-pronged approach; therefore, this step is not required.

4.2.6 Regulatory Compliance

Projects must maintain material regulatory compliance. In order to maintain material regulatory compliance, a project must complete all regulatory requirements at required intervals. During the site visit and desk review activities, SCS was able to confirm to a reasonable level of assurance that the

Project is in compliance with local, state, and federal regulations and had no material regulatory non-conformance events. SCS reviewed the EPA Enforcement and Compliance Online History database and found no violations in respect to Clean Air Act or RCRA compliance. In addition, SCS reviewed the Occupational Safety and Health Administration Website and confirmed no issues of non-compliance or violation. Lastly SCS reviewed the Attestation of Regulatory Compliance submitted by Troy Weldy dated 1 May 2019 ("Albany Title Ownership and Compliance Attestation - Signed May 2019.pdf"), affirming the Project's compliance status throughout the reporting period. SCS also confirmed the Project's monitoring plan indicated that the Project was in compliance with Federal, State and Local regulations based on this review, SCS concludes the Project met the Regulatory Compliance requirements of the assessment criteria.

4.2.7 Permanence

Section B8 of the GHG Plan asserts that the total risk percentage is 14% based on a risk assessment using the ACR Tool for Risk Analysis and Buffer Determination as required by the ACR methodology. SCS confirmed the above via independent re-quantification of the risk value.

4.2.8 Leakage

Section E3 of the GHG Plan states:

"Quantification of leakage is limited to market leakage, as no activity-shifting leakage is allowed by the methodology beyond de minimis levels. Albany Water Department does not commercially harvest timber and nearly all forestlands owned by Albany Water Department are included in the carbon project, therefore there is no activity-shifting leakage."

"Market leakage was determined by quantifying the merchantable carbon removed in both the baseline and with-project cases. Carbon in long-term storage in in-use wood products and landfills, calculated above, was used to assess relative amounts of "total wood products produced" in the two scenarios. Limited timber harvest is projected to take place in the with-project scenario. The decrease in wood production relative to the baseline was calculated and the applicable market leakage discount factor was determined."

SCS confirmed the above via confirmation of total harvested wood products stored for 100 years within the Baseline and Project Scenario against the requirements in Sections D6 and D7 of the ACR methodology.

4.2.9 Independently Validated and Verified

SCS Global Services is a third-party validation and verification body approved by ACR and therefore meets this requirement.

4.2.10 Community and Environmental Impacts

SCS confirmed that the GHG Plan included an assessment of the potential community and environmental impacts due to the Project. There are no negative impacts identified and therefore no mitigation plan is necessary. The audit team agrees with the assertion that no negative environmental effects of implementing the project activity. Evaluation of future management and potential negative effects will be monitored.

4.3 Evaluation of Data and Calculations

4.3.1 Baseline Scenario

The methodology defines the baseline scenario as "project-specific and must describe the harvesting scenario that would maximize NPV of perpetual wood products harvests…" The discount rate assumptions for calculating NPV vary by ownership class (see table below). Given that the Albany Water Board – Improved Forest Management Project is non-federal public timberland, a 4% discount rate was used.

Ownership	Annual Discount Rate
Private Industrial	6%
Private Non-Industrial	5%
Tribal	5%
Non-governmental organization	4%
Non-federal public lands	4%

The equations used to calculate the baseline emissions are the following (equation numbers correspond to the ACR methodology):

$$\Delta \boldsymbol{C}_{\boldsymbol{BSL,TREE,t}} = (\boldsymbol{C}_{\boldsymbol{BSL,TREE,t}} - \boldsymbol{C}_{\boldsymbol{BSL,TREE,t-1}}) \quad (1)$$

Where:

t: Time in years.

$\Delta C_{BSL,Tree,t}$: Change in the baseline carbon stock stored in above and below ground live trees (in metric tons CO_2) for year t.

$C_{BSL,Tree,t}$: Baseline value of carbon stored in above and below ground live trees at the beginning of the year t (in metric tons CO_2) and t-1 signifies the value in the prior year.

$$\Delta C_{BSL,DEAD,t} = (C_{BSL,DEAD,t} - C_{BSL,DEAD,t-1}) \quad (2)$$

Where:

t: Time in years.

$\Delta C_{BSL,DEAD,t}$: Change in the baseline carbon stock stored in dead wood (in metric tons CO_2) for year t.

$C_{BSL,DEAD,t}$: Baseline value of carbon stored in dead wood at the beginning of the year t (in metric tons CO_2) and t-1 signifies the value in the prior year.

$$\overline{C}_{BSL,HWP} = \frac{\sum_{t=1}^{20} C_{BSL,HWP,t}}{20} \quad (3)$$

Where:

t: Time in years.

$\overline{C}_{BSL,HWP}$: Twenty-year average value of annual carbon remaining stored in wood products 100 years after harvest (in metric tons of CO_2).

$C_{BSL,HWP,t}$: Baseline value of carbon remaining in wood products 100 years after being harvested in the year t (in metric tons of CO_2).

$$\overline{GHG}_{BSL} = \frac{\sum_{t=1}^{20}(BS_{BSL,t} * ER_{CH_4} * \frac{16}{44} * GWP_{CH_4})}{20} \quad (4)$$

Where:

t: Time in years.

$\overline{GHG}_{BSL}$: Twenty-year average value of greenhouse gas emissions (in metric tons of CO_2) resulting from the implementation of the baseline.

$BS_{BSL,t}$: Carbon stock (in metric tons CO_2) in logging slash burned in the baseline in year t.

ER_{CH4}: Methane (CH4) emission ratio (ratio of CO2 as CH4 to CO2 burned). If local data on combustion efficiency is not available or if combustion efficiency cannot be estimated from fuel information, use IPCC default value17 of 0.012

16/44: Molar mass ratio of CH_4 to CO_2.

GWP_{CH4}: 100-year global warming potential (in CO2 per CH4) for CH4 (IPCC SAR-100 value of 21 per the Fourth Assessment Report)

$$C_{BSL,AVE} = \frac{\sum_{t=0}^{20}(C_{BSL,Tree,t} + C_{BSL,DEAD,t})}{20} + \overline{C}_{BSL,HWP} \quad (5)$$

Where:

t: Time in years.

$C_{BSL,AVE}$: 20-year average baseline carbon stock (in metric tons CO_2).

$C_{BSL,Tree,t}$: Baseline value of carbon stored in above and below ground live trees at the beginning of the year t (in metric tons CO_2).

$C_{BSL,DEAD,t}$: Baseline value of carbon stored in dead wood at the beginning of the year t (in metric tons CO_2).

$\overline{C}_{BSL,HWP}$: Twenty-year average value of annual carbon remaining stored in wood products 100 years after harvest (in metric tons of CO_2).

$$\Delta \boldsymbol{C}_{\boldsymbol{BSL},t} = \boldsymbol{\Delta C}_{\boldsymbol{BSL},\boldsymbol{TREE},t} + \boldsymbol{\Delta C}_{\boldsymbol{BSL},\boldsymbol{DEAD},t} + \overline{\boldsymbol{C}}_{\boldsymbol{BSL}\cdot\boldsymbol{HWP}} - \overline{\boldsymbol{GHG}}_{\boldsymbol{BSL}}) \quad (6)$$

Where:

t: Time in years.

$\Delta C_{BSL,t}$: Change in the baseline carbon stock (in metric tons CO2) for year t.

$\Delta C_{BSL,Tree,t}$: Change in the baseline carbon stock stored in above and below ground live trees (in metric tons CO_2) for year t.

$\Delta C_{BSL,DEAD,t}$: Change in the baseline carbon stock stored in dead wood (in metric tons CO_2) for year t.

$\overline{C}_{BSL,HWP}$: Twenty-year average value of annual carbon remaining stored in wood products 100 years after harvest (in metric tons of CO_2).

$\overline{GHG}_{BSL}$: Twenty-year average value of greenhouse gas emissions (in metric tons of CO_2) resulting from the implementation of the baseline.

If years elapsed since the start of the IFM project activity (t) is ≥T to compute long-term average stock change use:

$$\Delta \boldsymbol{C}_{\boldsymbol{BSL},t} = \boldsymbol{0} \quad (7)$$

$$\boldsymbol{UNC}_{\boldsymbol{BSL}} = \frac{\sqrt{(\boldsymbol{C}_{\boldsymbol{BSL},\boldsymbol{TREE},1} * \boldsymbol{\epsilon}_{\boldsymbol{BSL},\boldsymbol{TREE}})^2 + (\boldsymbol{C}_{\boldsymbol{BSL},\boldsymbol{DEAD},1} * \boldsymbol{\epsilon}_{\boldsymbol{BSL},\boldsymbol{DEAD}})^2 + (\overline{\boldsymbol{C}}_{\boldsymbol{BSL},\boldsymbol{HWP}} * \boldsymbol{\epsilon}_{\boldsymbol{BSL},\boldsymbol{TREE}})^2 + (\overline{\boldsymbol{GHG}}_{\boldsymbol{BSL}} * \boldsymbol{\epsilon}_{\boldsymbol{BSL},\boldsymbol{TREE}})^2}}{\boldsymbol{C}_{\boldsymbol{BSL},\boldsymbol{TREE},1} + \boldsymbol{C}_{\boldsymbol{BSL},\boldsymbol{DEAD},1} + \boldsymbol{C}_{\boldsymbol{BSL},\boldsymbol{HWP}} + \overline{\boldsymbol{GHG}}_{\boldsymbol{BSL}}} \quad (10)$$

Where:

UNC_{BSL}: Percentage uncertainty in the combined carbon stocks in the baseline.

$C_{BSL,TREE,t}$: Carbon stock in the baseline stored in above and below ground live trees (in metric tons CO_2) in year t.

$C_{BSL,DEAD,t}$: Carbon stock in the baseline stored in dead wood (in metric tons CO_2) in year t.

$\overline{C}_{BSL,HWP}$: Twenty-year average value of annual carbon remaining stored in wood products 100 years after harvest (in metric tons of CO_2).

$\overline{GHG}_{BSL}$: Twenty-year average value of greenhouse gas emissions (in metric tons of CO_2) resulting from the implementation of the baseline.

$\epsilon_{BSL,TREE}$: Percentage uncertainty expressed as 90% confidence interval percentage of the mean of the carbon stock in above and below ground live trees (in metric tons CO_2) for the initial inventory in year *1*.

$\epsilon_{BSL,DEAD}$: Percentage uncertainty expressed as 90% confidence interval percentage of the mean of the carbon stock in dead wood (in metric tons CO_2) for the initial inventory in year *1*.

All of the data used for the baseline calculations above was made available to the audit team, and SCS confirmed the numbers by review of:

- Albany_ACR_GHG_plan_2_19_2019_V005.docx
- ERTs-Albany-Jenkins-AdjHrvLvls-20190219.xlsx
- AlbanyDefectAvg_20190212.xlsx
- Albany_Baseline_LP_to_SCS.xlsx
- sprwinter18_stumpage.pdf
- Clearcut.KEY
- AlbanyPlots.accb

The audit team reproduced the Project Proponent's calculations and verified their accuracy based on the underlying data.

SCS concludes that the GHG Project Plan sufficiently assessed the baseline scenario and that the scenario is relevant, complete, consistent, accurate, transparent, and conservative.

4.3.2 Quantification of Project Emissions

The Project Scenario consists of a conservation harvest regime designed to maximize the 100-year Net Present Value (NPV) of harvest and offset revenues, at a 4% discount rate. Conservation goals are also included as well as harvest adjacency restrictions in the region. Adjacency restrictions were modeled by enforcing a limit of 10% on the operated acres to receiving a shelterwood harvest. The conservation goals were modeled by limiting total harvest and acres operated on. The Project Scenario modeled/simulated four silvicultural systems. These included; selection, commercial thinning, shelterwood, and overstory removals.

Shelterwood and selection prescriptions were utilized in the Project's timber management schedule. Commercial thinning was also utilized but not in every case. No clearcut prescriptions were modeled. Natural regeneration is simulated and fixed to the highest NPV.

Taken from the GHG plan, "The project harvest activities implement Forest Stewardship Council (FSC) certified sustainable forest management practices that will maintain forest health and structural diversity at the stand level while encouraging ecosystem and wildlife habitat diversity at the project level. Additionally, the proposed project activities will lead to significant increases in the carbon storage and conservation value relative to typical private sector industrial management in the region - which focuses on short rotation clearcuts. This project ensures conservative/sustainable management of the forests, which otherwise under existing state and regional timber harvest regulations, could undergo intensive industrial harvesting."

"Quantification of leakage is limited to market leakage, as no activity-shifting leakage is allowed by the methodology beyond de minimis levels. Albany Water Department does not commercially harvest timber and nearly all forestlands owned by Albany Water Department are included in the carbon project, therefore there is no activity-shifting leakage."

4.3.3 Quantification of Emissions Reductions

Emission reductions are calculated using the following equations.

$$\Delta C_{P,TREE,t} = (C_{P,TREE,t} - C_{P,TREE,t-1}) \quad (21)$$

Where:

t: Time in years.

$\Delta C_{P,Tree,t}$: Change in the project carbon stock stored in above and below ground live trees (in metric tons CO_2) for year t.

$C_{P,Tree,t}$: Project value of carbon stored in above and below ground live trees at the beginning of the year t (in metric tons CO_2) and t-1 signifies the value in the prior year.

$$\Delta C_{P,DEAD,t} = (C_{P,DEAD,t} - C_{P,DEAD,t-1}) \quad (12)$$

Where:

t: Time in years.

$\Delta C_{P,DEAD,t}$: Change in the Project carbon stock stored in dead wood (in metric tons CO_2) for year t.

$C_{P,DEAD,t}$: Project value of carbon stored in dead wood at the beginning of the year t (in metric tons CO_2) and t-1 signifies the value in the prior year.

$$GHG_{P,t} = BS_{P,t} * ER_{CH_4} * \frac{16}{44} * GWP_{CH_4} \quad (13)$$

Where:

t: Time in years.

$GHG_{P,t}$: Greenhouse gas emission (in metric tons CO2e) resulting from the implementation of the project in year (t).

$BS_{P,t}$: Carbon stock (in metric tons CO_2) in logging slash burned in the project in year t.

ER_{CH4}: Methane (CH4) emission ratio (ratio of CO2 as CH4 to CO2 burned). If local data on combustion efficiency is not available or if combustion efficiency cannot be estimated from fuel information, use IPCC default value17 of 0.012

16/44: Molar mass ratio of CH_4 to CO_2.

GWP_{CH4}: 100-year global warming potential (in CO2 per CH4) for CH4 (IPCC SAR-100 value of 21 per the Fourth Assessment Report)

$$\Delta C_{P,t} = \Delta C_{P,TREE,t} + \Delta C_{P,DEAD,t} + C_{P,HWP} - GHG_{P,t} \quad (14)$$

Where:

t: Time in years.

$\Delta C_{P,t}$: Change in the project carbon stock and GHG emissions (in metric tons CO2e) for year t.

$\Delta C_{P,Tree,t}$: Change in the project carbon stock stored in above and below ground live trees

(in metric tons CO_2) for year t.

$\Delta C_{P,DEAD,t}$: Change in the project carbon stock stored in dead wood (in metric tons CO_2) for year t.

$C_{P,HWP}$: Carbon remaining stored in wood products 100 years after harvest (in metric tons CO2) for the project in year t.

$GHG_{P,t}$: Greenhouse gas emission (in metric tons CO2e) resulting from the implementation of the project in year (t).

$$\boldsymbol{UNC_{P,t}} = \frac{\sqrt{(C_{P,TREE,1} * \epsilon_{P,TREE})^2 + (C_{P,DEAD,1} * \epsilon_{P,DEAD})^2 + (C_{P,HWP,t} * \epsilon_{P,TREE})^2 + (GHG_{P,t} * \epsilon_{P,TREE})^2}}{C_{P,TREE,1} + C_{P,DEAD,1} + C_{P,HWP} + GHG_{P,t}} \quad (18)$$

Where:

$UNC_{P,t}$: Percentage uncertainty in the combined carbon stocks in the project in year t.

$C_{P,TREE,t}$: Carbon stock in the project stored in above and below ground live trees (in metric tons CO_2) in year t.$\Delta C_{BSL,Tree,t}$: Change in the baseline carbon stock stored in above and below ground live trees (in metric tons CO_2) for year t.

$C_{P,DEAD,t}$: Carbon stock in the baseline stored in dead wood (in metric tons CO_2) in year t.

$C_{P,HWP,t}$: Annual carbon (in metric tons CO_2) remaining stored in wood products in the project 100 years after harvest in year t.

$GHG_{P,t}$: Greenhouse gas emission (in metric tons CO_2e) resulting from the implementation of the project in year t.

$\epsilon_{P,TREE}$: Percentage uncertainty expressed as 90% confidence interval percentage of the mean of the carbon stock in above and below ground live trees (in metric tons CO_2) for the last remeasurement of the inventory prior to year t.

$\epsilon_{P,DEAD}$: Percentage uncertainty expressed as 90% confidence interval percentage of the mean of the carbon stock in dead wood (in metric tons CO_2) for the last remeasurement of the inventory prior to year t.

$$\boldsymbol{UNC_t} = \frac{\sqrt{(\Delta C_{BSL,t} * UNC_{BSL})^2 + (\Delta C_{P,t} * UNC_{P,t})^2}}{\Delta C_{BSL,t} + \Delta C_{P,t}} \quad (19)$$

Where:

UNC_t: Total project uncertainty in year t, in %.

$\Delta C_{BSL,t}$: Change in the baseline carbon stock and GHG emissions (in metric tons CO2) for year t.

UNC_{BSL}: Percentage uncertainty in the combined carbon stocks in the baseline.

$C_{P,DEAD,t}$: Carbon stock in the baseline stored in dead wood (in metric tons CO_2) in year t.

$C_{P,HWP,t}$: Annual carbon (in metric tons CO_2) remaining stored in wood products in the project 100 years after harvest in year t.

$GHG_{P,t}$: Greenhouse gas emission (in metric tons CO_2e) resulting from the implementation of the project in year t.

$\epsilon_{P,TREE}$: Percentage uncertainty expressed as 90% confidence interval percentage of the mean of the carbon stock in above and below ground live trees (in metric tons CO_2) for the last remeasurement of the inventory prior to year t.

$\epsilon_{P,DEAD}$: Percentage uncertainty expressed as 90% confidence interval percentage of the mean of the carbon stock in dead wood (in metric tons CO_2) for the last remeasurement of the inventory prior to year t.

If calculated UNC in equation (19) is <10%, then UNC shall be considered 0% in equation (20).

$$\boldsymbol{C_{ACR,t} = (\Delta C_{P,t} - \Delta C_{BSL,t}) * (1 - LK) * (1 - UNC_t) * (1 - BUF)} \quad (20)$$

Where:

$C_{ACR,t}$: Annual net greenhouse gas emission reductions (in metric tons CO2e) at time t.

$\Delta C_{P,t}$: Change in the project carbon stock and GHG emissions (in metric tons CO2e) for year t.

$\Delta C_{BSL,t}$: Change in the baseline carbon stock (in metric tons CO2) for year t.

LK: Leakage discount.

BUF: The non-permanance buffer deduction. BUF will be set to zero if an ACR approved insurance product is used.

UNC_t: Total Project Uncertainty, (in %) for year t. UNCt will be set to zero if the project meets ACR's precision requirement of within ±10% of the mean with 90% confidence. If the project does not meet this precision target, UNCt should be the half-width of the confidence interval of calculated net GHG emission reductions.

Any negative project stock change ($C_{ACR,t}$) values from time t will carry over to the following year through a balance of negative emission reduction tons ($C_{NEG,t}$) which is calculated using equation 21.

$$\boldsymbol{C_{NEG,t} = C_{NEG,t-x} + C_{ACR,t}} \quad (21)$$

Where:

$C_{NEG,t}$: Negative balance of annual net greenhouse gas emission reductions (in metric tons CO2e) at time t.

$C_{NEG,t-x}$: Negative balance of annual net greenhouse gas emission reductions (in metric tons CO2e) at the last valid verification report x years ago (time t-x).

$C_{ACR,t}$: Annual net greenhouse gas emission reductions (in metric tons CO2e) at time t.

If the value of $C_{NEG,t}$ is less than zero in any year prior to the end of the Crediting Period, ERT values are calculated using equation 22, otherwise equation 23 is used.

$$\boldsymbol{ERT_t = 0} \quad (22)$$

$$\boldsymbol{ERT_t = C_{NEGmt-x} + C_{ACR,t}} \quad (23)$$

Where:

ERT_t: Emission Reduction Tons issued with vintage year t.

$C_{NEG,t-x}$: Negative balance of annual net greenhouse gas emission reductions (in metric tons CO2e) at the last valid verification report x years ago (time t-x).

$C_{ACR,t}$: Annual net greenhouse gas emission reductions (in metric tons CO2e) at time t.

All of the data used for the project calculations above was made available to the audit team, and SCS confirmed the numbers by review of:

- Albany_ACR_GHG_plan_2_19_2019_V005.docx
- ERTs-Albany-Jenkins-AdjHrvLvls-20190219.xlsx
- AlbanyDefectAvg_20190212.xlsx
- Albany_Project_LP_to_SCS.xlsx
- Albany_Baseline_LP_to_SCS.xlsx
- sprwinter18_stumpage.pdf
- Project-SdTreeWithCT.KEY
- Project_Output_Plot52.accb

SCS concludes that the GHG Project Plan sufficiently assessed the emission reductions and calculated them accurately and correctly.

4.3.4 Monitoring Plan

The monitoring parameters and the quantification approach employed by the Project Proponent in the baseline and project scenarios conform to the parameters and quantification methods required by the Methodology. SCS determined that the Project Proponent sufficiently documented and quantified each parameter. SIG monitored each parameter throughout the reporting period, and the resulting data was subsequently provided to the audit team.

Data or Parameter Monitored	Area
Unit of Measurement	Acres
Description	Area of the improved forest management project
Data Source	GIS data derived from GPS coordinates and remotely sensed data
Measurement Methodology	Strata area figures adjusted based on stocking levels and species distribution projected in modeling and verified through inventory updates. Area is calculated using GIS are calculation tool. Information is reported in monitoring reports. Total project area shall remain fixed through crediting period.
Data Uncertainty	None

Monitoring Frequency	Every 5 years, following with inventory update
Reporting Procedure	4,439 acres (area of IFM project); included monitoring report
QA/QC Procedure	Meta data is kept current and uncorrupted
Notes	-

Data or Parameter Monitored	Time (T) between monitoring events
Unit of Measurement	Year(s)
Description	Number of years between monitoring ($T = t_2 - t_1$); used for calculation of project emissions
Data Source	Monitoring reports
Measurement Methodology	Number of years between monitoring ($T = t_2 - t_1$)
Data Uncertainty	None
Monitoring Frequency	Annually
Reporting Procedure	Included in monitoring report
QA/QC Procedure	Not applicable
Notes	-

Data or Parameter Monitored	Tree Height (H)
Unit of Measurement	feet
Description	Height of tree within inventory plot (measured from tree base to tree top). Measurements are used for project emissions.
Data Source	Field measurements
Measurement Methodology	Measured with clinometer or hypsometer
Data Uncertainty	Can include/associated with equipment used, and definition of height.
Monitoring Frequency	Every 5 years after the first inventory
Reporting Procedure	Cruise tally sheet – summarized in monitoring report
QA/QC Procedure	Equipment will be maintained in excellent condition. All heights will be double checked for reasonableness prior to submission for verification
Notes	

Data or Parameter Monitored	Diameter at breast height of tree (DBH)
Unit of Measurement	Inches (to $1/10^{th}$ of an inch)
Description	Tree diameter measure 4.5 feet above ground; Measurements are used for project emissions.
Data Source	Field measurement

Measurement Methodology	Measured with loggers Tape, calipers, or Biltmore stick
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Reporting Procedure	Recorded on cruise tally sheet; data summarized in monitoring reports
QA/QC Procedure	Equipment will be maintained in excellent condition. All heights will be double checked for reasonableness prior to submission for verification
Notes	

Data or Parameter Monitored	Tree decay class
Unit of Measurement	Declay class category
Description	Qualitative degree of decomposition
Data Source	Forest Inventory
Measurement Methodology	Qualitative assessment of dead tree into 1 of 4 decay classes based on class descriptions
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Reporting Procedure	Recorded on cruise tally sheet; data summarized in monitoring reports
QA/QC Procedure	Equipment will be maintained in excellent condition. All heights will be double checked for reasonableness prior to submission for verification
Notes	

Data or Parameter Monitored	Tree Live or Dead Status
Unit of Measurement	Tree life status
Description	Record the live or dead status of trees in inventory plots
Data Source	Forest Inventory
Measurement Methodology	Measured per the Carbon Plot Methodology
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Reporting Procedure	Recorded on cruise tally sheet; data summarized in monitoring reports
QA/QC Procedure	Equipment will be maintained in excellent condition. All heights will be double checked for reasonableness prior to submission for verification
Notes	

Data or Parameter Monitored	Harvested Wood Products
Unit of Measurement	Metric tons CO_2
Description	Carbon remaining in stored wood products 100 years after harvest for the project in year t.
Data Source	Harvest slips and reports produced by Albany Water Department/Board
Measurement Methodology	Log Scale based on log length and DIB
Data Uncertainty	None
Monitoring Frequency	Summarized every 5 years after the first inventory
Reporting Procedure	Recorded on cruise tally sheet; data summarized in monitoring reports
QA/QC Procedure	Compare to post harvest cruises
Notes	

Data or Parameter Monitored	Forest Carbon
Unit of Measurement	Metric tons of CO_2
Description	Carbon stores in above and below ground live trees at the beginning of the year t.
Data Source	Forest Inventory
Measurement Methodology	To be calculated in FVS as the mean +/- 90% confidence interval
Data Uncertainty	None
Monitoring Frequency	Summarized every 5 years after the first inventory
Reporting Procedure	Recorded on cruise tally sheet; data summarized in monitoring reports
QA/QC Procedure	The inventory will use a random sample design and re-measure the same permanent plots established in 2017, which targeted a precision level of +/- 10% of the mean live tree biomass with 90% confidence.
Notes	

4.3.5 Verification Body Data checks

The audit team assessed the Project Proponent's emission reduction calculation inputs and procedures to convert the raw inventory data into emission reduction estimates. This review included a detailed look at the Project's data aggregation and processing procedures, recordkeeping and data storage, and the quality control and assurance procedures. Additionally, the audit team conducted in person interviews with relevant personnel involved in these activities.

4.3.6 Parameters Monitored

SCS devoted a portion of the verification assessment to the review of the manner and propriety by which SIG quantified their net GHG reductions and removals. This assessment included a review of the baseline determination, review of project assumptions, raw data inputs and accuracy of calculations. The formulas and raw data inputs used to determine emission reduction calculations as described in the methodology and the calculation spreadsheets were first reviewed for compliance. The main parameters were verified via independent re-quantification and are listed in sections 4.3.1 and 4.3.3 of this report. In some cases, a random sample was selected as all of the data could not be examined during verification services.

Emission Reductions

The audit team verified that the Project Proponent used the appropriate emissions factors and GWP's to calculate total emission reductions, which is adherent to the ACR Methodology. The team recalculated the final emission reductions and confirmed that they are without material discrepancy.

The ERT's associated with the first reporting period are reported in the ERT workbook and are verified by the validation/verification team are as follows:

- Total: 29,094 tCO2e (Emissions reductions at the end of the current reporting period including deductions for uncertainty, risk, and leakage)
- 14% buffer contribution
- 40% Leakage deduction

Variances or Deviations

For this reporting period, there were no variances or deviations

Uncertainty

The baseline uncertainty of 11.15% was verified within "ACR_SIG_Albany_RP1_Uncertainty_V1-0_050219.xlsx" and "ERTs-Albany-Jenkins-AdjHrvLvls-20190219.xlsx." Below is an independent requantification via the "Uncertainty" tab in "ACR_SIG_Albany_RP1_Uncertainty_V1-0_050219.xlsx."

Percentage uncertainty in the combined carbon stock UNC_{BSL}		
UNC_{BSL}	11.09%	
UNC_{BSL}	11.15%	<- client value
	0.06%	<- difference
		Reasonable

The Project Uncertainty and Total Uncertainty are reported in "ERTs-Albany-Jenkins-AdjHrvLvls-20190219.xlsx" was confirmed to be consistent with the ACR methodology.

Materiality

$$\%\ Error = \frac{(Project\ Emission\ Reduction\ Assertion - Verifier\ Emission\ Reduction\ Recalculation)}{Verifier\ Emission\ Reduction\ Recalculation} * 100$$

$$\%\ Error = \frac{(29{,}094 - 29{,}091)}{29{,}091} * 100 = \frac{4}{29{,}091} * 100 = \ 0.02\%$$

5 Validation Conclusion

SCS confirms that the GHG Plan for the Albany Water Board – Improved Forest Management Project conforms to the validation criteria, as set out in the ACR Standard, Version 5.0, Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3 (April 2018), and the criteria referenced in Section 2.2 of this report. No qualifications or limitations exist with respect to the validation opinion reached by the audit team.

6 Verification Conclusion

The audit team affirms with a reasonable level of assurance that the Albany Water Board – Improved Forest Management Project has been designed and, for the duration of the reporting period 1 October 2017 to 1 July 2018, implemented in accordance with the verification criteria, as set out in the documents referenced in Section 2.2 above.

On the basis of the information made available SCS and the analyses completed during the verification, SCS was able to reach a positive opinion, with a reasonable level of assurance, that the emission reductions represented by the project proponent during the monitoring period of 1 October 2017 to 1 July 2018 are free from material misstatement and in conformance with the assessment criteria.

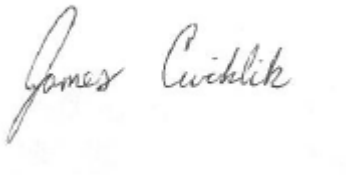
The following provides a summary of the verification results:

Reporting Period	Baseline Emissions tCO_2e	Project Emissions tCO_2e	Net GHG Emission Reductions tCO_2e	Gross GHG Emission Reductions tCO_2e
1 October 2017 to 1 July 2018	**-54,367**	**11,567**	**29,094**	**33,831**

Note: final numbers are rounded for simplicity.

Buffer Contribution = 4,737

Leakage = 26,373

Lead Verifier's Approval	 James Cwiklik, 29 August 2019
Technical Reviewer's Approval	 Zane Haxtema, 29 August 2019

Appendix A: SCS Certification Mark

Congratulations on receiving a positive verification for the Albany Water Board – Improved Forest Management Project. Your project is now eligible to use the SCS Kingfisher Certification Mark B for Carbon Offset Project Verification, as represented on the cover page of this verification report. The SCS Kingfisher Certification Mark increases the recognition of your achievements with your verification carbon offset project.

Please refer to the *SCS Kingfisher Certification Mark Labeling and Language Guide: Mark B* provided to you by the GHG Verification Program staff for more information about your Mark and usage. Should you have any additional questions regarding your Mark, use, messaging, or other marketing opportunities, please contact the GHG Verification Team or SCS Marketing Staff at NRmarcom@scsglobalservices.com.

Appendix B: List of Documents Reviewed During Audit Proceedings

GHG Plan & Monitoring Report

- Albany_ACR_GHG_plan_2_19_2019_V003.pdf
- Albany_ACR424_MonitoringReport_060619_V008.pdf

GIS Information

- AlbanyWater_ForestData_TNC_SIG_20180511.gdb
- AlbanyWater_LandCover_Master_2018
- AlbanyWater_Property_ExteriorBoundary_2018
- AlbanyWater_CFI_Pts_20180511

FVS files (growth and yield modelling)

- AlbanyPlots .accdb
- Baseline-Thin55&CC.KEY
- Baseline-Thin70&CC.KEY
- Clearcut.KEY
- Selection.KEY
- FVSReview.OUT
- FVS-ReadMe.docx
- Project-NoHarvest.KEY

Baseline and Project Scenario quantification workbooks

- ERTs-Albany-Jenkins-AdjHrvLvls-20190219.xls
- AlbanyDefectAvg_20190212.xls
- Albany_Project_LP_to_SCS.xls
- Albany_Baseline_LP_to_SCS.xls

Inventory workbooks

- SIG_Albany_Forest_Inventory_Manual_v20171129.pdf

Title document

- A-0132286 Title Report.pdf

Supplemental documents (Certifications, Easements, Attestations, and Management Plans)

- Albany Title Ownership and Compliance Attestation - Signed May 2019 .pdf
- Albany Water Board CONSERVATION EASEMENT - EXECUTION VERSION (Final w-Exhibits and signed page).pdf

- FW_AlbanyWaterBaselineAttestation-signed.pdf
- sprwinter18_stumpage.pdf
- AWB_FINAL_ForestMgmtPlan_revised DRAFT for Public Review_October 12 2018.pdf

****Please note that many of the quantification workbooks as well as the GHG plan and Monitoring Report have multiple versions, these were all examined but the final version listed here****

Appendix C: List of Findings

Please see Section 3.6 above for a description of the findings issuance process and the categories of findings issued. It should be noted that all language under "Client Response" is a verbatim transcription of responses provided to the findings by project personnel.

NIR 1 Dated 13 Sep 2018
Standard Reference: ACR Forest Carbon Project Standard v2.1.pdf
Document Reference: SIG_Albany_Forest_Inventory_Manual_v20171129.pdf
Finding: The standard states "Project Proponents shall apply the guidance in ISO 14064 Part 2 and consider all relevant information that may affect the accounting and quantification of GHG reductions/removals, including estimating and accounting for any decreases in carbon pools and/or increases in GHG emission sources." The Inventory document discusses in depth how site index was determined at each plot. Tree Cores were taken for reference and "must be preserved as best as possible for future analysis by third-party verifiers." Simply requesting documentation (maybe photos) and how they are organized to confirm they exist and are being stored.
Project Personnel Response: A photograph of the tree cores is provided and a log of each tree core is provided to demonstrate conformance with this requirement. The tree core log can be found in the "AlbanyTreeCoreLog" Excel Worksheet. An image of all Albany tree cores is named "AlbanyTreeCore.jpg". An image of an example of an individual tree core is found in "ExampleTreeCoreAlbany.jpg." Individual tree cores are stored in plastic straws and Plot ID label with a sharpie with tape affixed to each straw. The Tree Core Log and images of tree cores have been uploaded to SCS/SIG shared Dropbox folder - Dropbox\Albany Water Authority SIG-SCS shared\Issue Logs\ACR_TNC_Findings_V5-1_091318_SIG\Finding 1
Auditor Response: Upon issuance of this finding the client provided core photos and a log of each core. This finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NIR 2 Dated 14 Sep 2018
Standard Reference: ACR Standard 5.0
Document Reference: Albany_ACR_GHG_plan_06262018
Finding: The standard states in section 2B.6 Managing Data Quality - "The Project Proponent shall establish and apply quality assurance and quality control (QA/QC) procedures to manage data and information, including the assessment of uncertainty in the project and baseline scenarios. QA/QC procedures shall be outlined in the GHG Project Plan." This finding relates to the quality assurance to manage information. Appendix A is referenced in the GHG plan for Land Owner and Contracts, as well as for Direct Emission requirements. This document or section is not available or cannot be found. Please provide the document or edit the GHG plan to accurately reflect where information can be found.
Project Personnel Response: A Title Report (A-0132286 Title Report_Albany.pdf), the signed Carbon Development and Marketing Agreement between The Nature Conservancy and the Albany Water Board (TNC-Albany Carbon Agreement signed.pdf), a signed Working Woodlands Agreement between The Nature Conservancy and Albany Water Board (Working Woodlands Albany MOA Signed.pdf), the FSC-Certified Forest Management Plan (AWB_Final_ForestMgmtPlan_revised DRAFT for Public Review_October 12 2018.pdf), and Conservation Easement (102318 Conservation Easement - Clean and Final.docx; please note that the conservation agreement is currently in a "curing" period and expected to be finalized on or by January 25, 2019) has been uploaded to SCS/SIG shared Dropbox folder - Dropbox\Albany Water Authority SIG-SCS shared\Issue Logs\ACR_TNC_Findings_V5-1_091318_SIG\Finding 2. These documents will be added to the final GHG Plan as an appropriate Appendix when conservation easement is signed and final.
Auditor Response: Upon issuance of this finding, the client provided an explanation and additional documents related to Appendix A. The audit team reviewed the documents and consider this finding closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NIR 3 Dated 14 Sep 2018
Standard Reference: ACR Standard 5.0
Document Reference: Albany_ACR_GHG_plan_06262018
Finding: Chapter 2 Section A states "Select the GHG sources, GHG sinks, GHG reservoirs, data and methodologies appropriate to the needs of the intended user (ISO 14064-2:2006, clause 5.6). The GHG plan states that "No burning of any kind is expected to take place in the project area", however methane (CH4) is listed as "included" in the burning of biomass table in section B4 of the GHG plan. Please clarify if burning of biomass is conducted as part of the project activities. Please clarify if methane is included or excluded.
Project Personnel Response: Table B4.2 "GHG gases considered in the project analysis" in the GHG Plan has been revised to "exclude" CH4 (methane) as a source from burning of biomass. This change improves consistency with the statement in the GHG Plan that "no burning of any kind is expected to take place in the project area."
Auditor Response: The GHG gases considered in the project analysis to be included due to burning have been updated. The finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 4 Dated 14 Sep 2018
Standard Reference: ACR Validation and Verification Standard 1.1 ACR Standard 5.0
Document Reference: N/A
Finding: The standard states "The Project Proponent shall provide documentation and attestation of undisputed title to all offsets prior to registration, including chain of custody documentation if offsets have been sold in the past." Please provide this attestation to be compliant with the standard.
Project Personnel Response: A Title Report (A-0132286 Title Report_Albany.pdf) and the Carbon Development and Marketing Agreement between The Nature Conservancy and the Albany Water Board (TNC-Albany Carbon Agreement signed.pdf) has been uploaded to SCS/SIG shared Dropbox folder - Dropbox\Albany Water Authority SIG-SCS shared\Issue Logs\ACR_TNC_Findings_V5-1_091318_SIG\Finding 2. These document will be added to the final GHG as an appropriate Appendix. In addition, Signed Attestations expected from Project Proponent on December 12, 2018.
Auditor Response: Upon issuance of this finding, the client provided documentation of the ownership of the area through a Title Report. However, a formal attestation was not provided for review. As the standard states, "The VVB shall review the Project Proponent's ownership attestation and supporting documentation that specifies ownership of offsets title and, if applicable, ownership of the emissions sources within the project assessment boundary." Please provide the attestation to be in conformance with the standard.
Project Personnel Response 2: A signed ownership Attestation Statement has been provided to verifier. See - Albany Title Ownership and Compliance Attestation - Signed May 2019.pdf
Auditor Response 2: The signed ownership Attestation has been provided. This finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 5 Dated 14 Sep 2018
Standard Reference: ACR Validation and Verification Standard 1.1
Document Reference: N/A
Finding: The standard states "Project Proponents are required to provide a regulatory compliance attestation to a verification body at each verification." Please provide this attestation to be compliant with the standard.
Project Personnel Response: Signed Attestation Statement Has been posted to the SCS/SIG shared dropbox folder (Dropbox\Albany Water Authority SIG-SCS shared\Issue Logs\ACR_TNC_Findings_V5-1_091318_SIG\Finding 5) and posted to the ACR Registry for the Albany Project.
Auditor Response: Upon issuance of this finding, the client provided an annual attestation statement, however the finding was related to the regulatory attestation. The standard states " Project Proponents are required to provide a regulatory compliance attestation to a verification body at each verification. " The annual attestation does not satisfy the requirement for regulatory compliance criteria in the standard. Please provide a regulatory attestation for review.
Project Personnel Response 2: A signed regulatory compliance Attestation Statement has been provded to verifier. See - Albany Title Ownership and Compliance Attestation - Signed May 2019.pdf
Auditor Response 2: The signed regulatory compliance Attestation has been provided. This finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 6 Dated 14 Sep 2018
Standard Reference: ACR Validation and Verification Standard
Document Reference: N/A
Finding: The standard states " Project Proponents must assess risk using an ACR-approved risk assessment tool and enter into a legally binding Reversal Risk Mitigation Agreement with ACR." Please provide this documentation to reach compliance with the standard.
Project Personnel Response: The GHG Plan provides a summary of the risk of reversal as assessed with the ACR-approved risk assessment tool. Additionally, a signed Attestation Statement and Reversal Risk Mitigation Agreement has been posted to the SCS/SIG shared dropbox folder (Dropbox\Albany Water Authority SIG-SCS shared\Issue Logs\ACR_TNC_Findings_V5-1_091318_SIG\Finding 6) and posted to the ACR Registry for the Albany Project.
Auditor Response: Upon issuance of this finding, the client provided a signed Reversal Risk Mitigation Agreement. This finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 7 Dated 14 Sep 2018
Standard Reference: ACR Standard 5.0
Document Reference: N/A
Finding: The Standard states "In their Annual Attestations to ACR, Project Proponents shall disclose any negative environmental or community impacts or claims of negative environmental and community impacts and the appropriate mitigation measure." Please provide this documentation to be in compliance with the standard.

Project Personnel Response: Signed Attestation Statement Has been posted to the SCS/SIG shared dropbox folder (Dropbox\Albany Water Authority SIG-SCS shared\Issue Logs\ACR_TNC_Findings_V5-1_091318_SIG\Finding 7) and posted to the ACR Registry for the Albany Project.
Auditor Response: Upon issuance of this finding, the client provided an Annual Project Attestation. This finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 8 Dated 12 Nov 2018
Standard Reference: ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3
Document Reference: ERTs-Albany-RptYr1Updated-Values_20180725.xlsx
Finding: Equation 20 of the methodology defines how to quantify "additional annual net greenhouse gas emission reductions and Emission Reduction Tons (ERTs) issued for a time period". During the review of the ERT calculations presented in the workbook "ERTs-Albany-RptYr1Updated-Values_20180725.xlsx", the audit team identified a nonconformity related to the estimation of ERTs where the ERT values are being estimated using data from time t+1. The current ERT workbook and estimation of ERTs in row 26 ("Net ERTs Issued, t") will need to be updated to align with the requirements of the methodology.
Project Personnel Response: Corrected
Auditor Response: The issue has been corrected. The finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): M

NCR 9 Dated 12 Nov 2018
Standard Reference: ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3
Document Reference: ERTs-Albany-RptYr1Updated-Values_20180725.xlsx
Finding: Equation 6 of the methodology defines how to quantify the change in the baseline carbon stocks (in metric tons CO2) for year t (ΔCBSL,t). However, during the review of the ERT calculations in the workbook "ERTs-Albany-RptYr1Updated-Values_20180725.xlsx", worksheet "ERTS", row 14 ("ΔC BSL, t"), the audit team identified an error in the quantification of ΔCBSL,t where the parameters "ΔC BSL, tree, t", "ΔC BSL, dead, t", and "$\overline{c}$ BSL, HWP" were not included as required. Please review equation 6 in the methodology and update the quantification of ΔCBSL,t to be in conformance. [Equation 6: ΔCBSL,t = ΔC BSL, tree, t + ΔC BSL, dead, t + $\overline{c}$ BSL, HWP - $\overline{G}\overline{H}\overline{G}$BSL]
Project Personnel Response: Corrected
Auditor Response: The issue has been corrected. The finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): M

NCR 10 Dated 12 Nov 2018
Standard Reference: ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3
Document Reference: ERTs-Albany-RptYr1Updated-Values_20180725.xlsx; Albany-OtherCalcs20180725.xlsx
Finding: Equation 18 of the ACR methodology defines how the percentage uncertainty in the combined carbon stocks in the project year t (UNCP,t) is estimated. During the review of the uncertainty calculation used within workbook “ERTs-Albany-RptYr1Updated-Values_20180725.xlsx”, an error was identified in the quantification of UNCP,t where the percentage uncertainty for the mean carbon stocks in live and dead wood was not applied correctly, as required. For example, cells A29 contains the uncertainty for live carbon stocks at 10.9% and cell A30 reports an uncertainty for dead carbon stocks as 11.0% when the values are reported as 11.1% error for live carbon (cell B6, worksheet "Uncertainty", workbook "Albany-OtherCalcs20180725.xlsx") and 27.6% for dead carbon (cell B10, same workbook/worksheet as live carbon). These values have been verified. Please update the workbook “ERTs-Albany-RptYr1Updated-Values_20180725.xlsx” to correctly reference the error for live/dead carbon stocks during the quantification of UNCP,t to comply with the ACR methodology.
Project Personnel Response: Corrected
Auditor Response: The issue has been corrected. The finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): M

NCR 11 Dated 12 Nov 2018
Standard Reference: ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3
Document Reference: ERTs-Albany-RptYr1Updated-Values_20180725.xlsx
Finding: Equation 19 of the ACR methodology defines how the total project uncertainty in year t (UNCt) is estimated. During the review of the uncertainty calculation used within workbook "ERTs-Albany-RptYr1Updated-Values_20180725.xlsx", a non-conformity was identified in the estimation of UNCt where the parameters ΔCBSL,t and ΔCP,t were not included as required. Please review equation 19 and update the workbook "ERTs-Albany-RptYr1Updated-Values_20180725.xlsx" to correctly quantify UNCt to comply with the ACR methodology. [Equation 19: UNCt = ((ΔCBSL,t * UNCBSL)2 + (ΔCBSL,t * UNCP,t)2)0.5 / (ΔCBSL,t + ΔCBSL,t)]
Project Personnel Response: Corrected
Auditor Response: The issue has been corrected. The finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): M

NCR 12 Dated 12 Nov 2018
Standard Reference: ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3
Document Reference: ERTs-Albany-RptYr1Updated-Values_20180725.xlsx
Finding: Equation 20 of the methodology defines how to quantify "additional annual net greenhouse gas emission reductions and Emission Reduction Tons (ERTs) issued for a time period". During the review of the ERT calculations presented in the workbook "ERTs-Albany-RptYr1Updated-Values_20180725.xlsx", the audit team identified an error in row 25 (C ACR (deduct), t) of the "ERTS" worksheet where the total uncertainty is being divided by two resulting in the incorrect quantification of CACR,t (ERTs). We understand that the UNCt is defined as the half-width of the confidence interval of calculated net GHG reductions", however, this does not mean the total uncertainty is divided by two. A "half-width" represents the "margin of error" in statistics and thus, the sampling error and should not be divided by two during the estimation of emissions when applying the appropriate reductions such as uncertainty, leakage, and risk. Please update the quantification of C ACR (deduct), t, to not divide the UNCt in half to be in conformance with the requirements. [Equation 20: ERTt = CACR,t = (ΔCP,t - ΔCBSL,t) * (1 - LK) * (1 - UNCt) * (1 - BUF)]
Project Personnel Response: Corrected
Auditor Response: The issue has been corrected. The finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): M/C

NCR 13 Dated 12 Nov 2018
Standard Reference: ACR Tool For Risk Analysis and Buffer Determination
Document Reference: Albany_ACR_GHG_plan_06262018
Finding: The ACR Tool for Risk Analysis and Buffer Determination requires "that verifiable evidence must be provided" if a 2% risk rating (project is located in a low fire risk region) is applied to Category E. Natural Fire Risk. The project team applied a risk rating of 2% for Category E but does not provide evidence of a low fire risk region. Please provide verifiable evidence that 2% is accurate and correct.
Project Personnel Response: The GHG Plan has been updated to provide evidence for the 2% risk rating that the project area has a low fire risk rating. Sources referenced include: 1) Fire history and fire perimeters were reviewed using the map viewer provided by USGS GeoMAC Wildland Fire Support website (https://www.geomac.gov/). From these data, no wildland fires (or associated fire perimeters) have been recorded within 50 miles of the project area for the years of 2002 to 2017 - indicated a low wildland fire risk. GEOMAC (Geospatial Multi-Agency Coordination) is an online wildfire mapping application designed for fire managers and the public to access maps of current and past fire locations and perimeters throughout the United States. Fire perimeter data is updated daily within GeoMAC. 2) Additionally, USFS Wildfire Hazard Potential map data (Dillon et al. 2015; https://www.firelab.org/project/wildfire-hazard-potential) were downloaded and overlayed onto the project area to summarize wildfire hazard potential within the project area. Result of this overlay for the project area (water area removed) showed that approximately 5% is classified as 'non-burnable', 20% is classified as "Very Low,' 7% is classified as 'Low', and 36% is classified as 'Moderate' wildfire hazard potential, with approximately 32% classified as 'high' wildfire hazard potential and no area within the project area classified as "Very High' wildfire hazard potential. Wildfire Hazard Potential (WHP) helps to inform evaluations of wildfire risk or prioritization of fuels management needs across very large landscapes (millions of acres). The objective of the WHP map is to depict the relative potential for wildfire that would be difficult for suppression resources to contain. To create the 2018 version USFS built upon spatial datasets of wildfire likelihood and intensity generated for the conterminous U.S. in 2016 with the Large Fire Simulator (FSim), as well as spatial fuels and vegetation data from LANDFIRE 2012 and point locations of past fire occurrence (ca. 1992 - 2013). With these datasets as inputs, USFS produced an index of WHP for all of the conterminous United States at a 270-meter resolution. WHP map is presented in two forms: 1) continuous integer values, and 2) five WHP classes of very low, low, moderate, high, and very high. Areas mapped with higher WHP values represent fuels with a higher probability of experiencing torching, crowning, and other forms of extreme fire behavior under conducive weather conditions, based primarily on landscape conditions at the end of 2012. Combined these data support a low fire risk rating.
Auditor Response: Upon issuance of this finding, the client provided evidence and justification of the low fire risk rating chosen. The finding is considered closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 14 Dated 12 Nov 2018
Standard Reference: ACR Standard 5.0 ACR Forest Carbon Project Standard Version 2.1
Document Reference: Albany_ACR_GHG_plan_06262018
Finding: The ACR Forest Carbon Standard 5.0 states "FINANCIAL BARRIERS include high costs, limited access to capital, or an internal rate of return in the absence of carbon revenues that is lower than the Project Proponent's established and documentable minimum acceptable rate. Financial barriers can also include high risks such as unproven technologies or business models, poor credit rating of project partners, and project failure risk. If electing the financial implementation barrier test, Project Proponents shall include solid quantitative evidence such as net present value and internal rate of return calculations."
Currently the GHG plan states: "The City of Albany Water Department and Water Board are committed to this project for the purposes stated above. By developing a forest carbon offset project, the project proponent is in a much better financial position to implement this project to protect water quality for the citizens of Albany, NY, enhance forest habitat integrity for wildlife and generate additional revenue for the water department to support the implementation of sustainable forest health practices." This does not present any quantitative evidence. Please provide evidence that the project passes the financial implementation barrier test.
Project Personnel Response: The GHG Plan has been updated to address this issue as follows "The City of Albany Water Department and Water Board are committed to this project for reducing its carbon footprint. By developing a forest carbon offset project, the project proponent is in a much better financial position to implement this project to protect water quality for the citizens of Albany, NY, to enhance forest habitat integrity for wildlife and generating additional revenue for the water department to support the implementation of sustainable forest health practices.
The net present value of the baseline scenario, over the crediting period, is $7,629,000. This is in contrast to the project scenario NPV, for timber harvest only, of $1,457,000. The carbon revenues add another $1,867,000, for a total 20-year NPV of $3,324,000." The updated GHG Plan can be found in the shared Dropbox folder: Albany Water Authority SIG-SCS shared\GHG Plan\February 2019 GHG Plan\Albany_ACR_GHG_plan_2_19_2019.docx
Auditor Response: Upon issuance of this finding the client provided the missing information related to quantification of the financial barriers test. This finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 15 Dated 12 Nov 2018
Standard Reference: ACR Tool For Risk Analysis and Buffer Determination
Document Reference: Albany_ACR_GHG_plan_06262018
Finding: The ACR Tool for Risk Analysis and Buffer Determination states " Evidence may include written communication from State, Federal or Local independent experts in the applicable field, peer reviewed literature, or other scientific documentation or reports. This evidence must be current at the time of verification." The selection of a 4% Default Value for Diseases and Pests (Category F) does not provide evidence. Please provide verificable evidence that 4% is accurate and correct.
Project Personnel Response: The GHG Plan has been updated (See folder - Albany Water Authority SIG-SCS shared\GHG Plan\February 2019 GHG Plan) to provide evidence for the 4% default risk rating for disease and pest in the project area. Sources reviewed include: 1) National Insect and Disease Risk Map (2012 NIDRM [composite risk map], https://www.fs.fed.us/foresthealth/applied-sciences/mapping-reporting/gis-spatial-analysis/national-risk-maps.shtml);a nationwide strategic assessment and database of the potential hazard for tree mortality due to major forest insects and diseases and 2) USFS Region 9, 2017 firest insect and disease Detection Survey Maps for 2017 (https://www.fs.fed.us/foresthealth/applied-sciences/mapping-reporting/gis-spatial-analysis/detection-surveys.shtml). An intersection of the NIDRM composite risk map with the project indicated that approximately 97% of the project area is not at risk from insect and disease. A review of the 2017 detection surveys indicated that the closest area affected by pest or disease was 5.9 miles away and the infestation was small in size (29.4 acres). This review suggest that epidemic levels of pest or disease at the project area do not exist.
Auditor Response: Upon issuance of this finding, the client provided evidence and justification for the low pest and disease percentage chosen. This finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

OBS 16 Dated 19 Apr 2019
Standard Reference: N/A
Document Reference: Albany_ACR_GHG_plan_2_19_2019
Finding: This is an observation that section D2 in the GHG plan is not listed in the table of contents. Might want to consider adding to the table of contents.
Project Personnel Response: "D2 Monitoring Plan" has been added to the Table of Contents in the GHG Plan - See Albany_ACR_GHG_plan_2_19_2019_V002.doc
Auditor Response: This section was added to the table of contents. No finding issued so nothing closed. Just an observation.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 17 Dated 19 Apr 2019
Standard Reference: ACR Standard 5.0
Document Reference: Albany_ACR_GHG_plan_2_19_2019
Albany_ACR424_MonitoringReport_071018
Finding: The standard states in section 2B.6 Managing Data Quality - "The Project Proponent shall establish and apply quality assurance and quality control (QA/QC) procedures to manage data and information, including the assessment of uncertainty in the project and baseline scenarios. QA/QC procedures shall be outlined in the GHG Project Plan." This finding relates to the Project Title varying between the Monitoring Report and GHG plan. The GHG plan lists it as "Albany Water Authority, New York (City of Albany Department of Water and Water Supply, and Albany Water Board) – Improved Forest Management Project." While the Monitoring report lists it as "Albany Water Authority, New York". Please update to one consistent title that is subsequently used throughout each document.
Project Personnel Response: The Monitoring Report has been updated and now references "Albany Water Authority, New York – Improved Forest Management Project" in Section II.2 of the Monitoring Report. See "Albany_ACR424_MonitoringReport_071018_V005.doc"
Auditor Response: The Title in Albany_ACR424_MonitoringReprot_060619_V008.docx reads as "Albany Water Board – Improved Forest Management Project." While section A1. Project Title of the GHG plan (Albany_ACR_GHG_plan_2_12_2019_V002.docx) reads: The project title is “Albany Water Authority, New York (City of Albany Department of Water and Water Supply, and Albany Water Board) – Improved Forest Management Project.” Please update to the correct title.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 18 Dated 19 Apr 2019
Standard Reference: ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3
Document Reference: Albany_ACR424_MonitoringReport_071018
Finding: The methodology states "In accordance with the ACR Standard, Version 5.0, all projects will have a Crediting Period of twenty (20) years." During the verification it was found that the Monitoring Report states the Current project crediting period as "9/30/2017 - 7/1/2018)". Please update to the proper dates to be in accordance with the methodology and to match what is stated in the GHG plan (9/30/17 - 9/29/37).
Project Personnel Response: The Crediting Period in the Section II.6 has been updated to 9/30/2017 t0 9/29/2037. "Albany_ACR424_MonitoringReport_071018_V005.doc"
Auditor Response: Upon issuance of this finding, the client updated the crediting period in the monitoring report to the align with the actual crediting period required by ACR. This finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NIR 19 Dated 19 Apr 2019
Standard Reference: ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3
Section C
Document Reference: Albany_ACR_GHG_plan_2_19_2019
Finding: The standard states "Required inputs for the project NPV calculation include the results of a recent timber inventory of the project lands, prices for wood products of grades that the project would produce, costs of logging, reforestation and related costs, silvicultural treatment costs, and carrying costs." The GHG plan references stumpage data from the New York Division of Lands and Forests website, however a missing page message is promoted when this data is searched for. Please provide the document referenced for stumpage data, "http://www.dec.ny.gov/docs/lands_forests_pdf/sprwinter18.pdf" to be verified.
Project Personnel Response: See "sprwinter18_stumpage.pdf" for stumpage data used. Reference to this source has been updated in GHG Plan to read "New York Department of Environmental Conservation – Stumpage Price Report Winter 2018 #92" - See "Albany_ACR424_MonitoringReport_071018_V005.doc"
Auditor Response: Stumpage data source was provided and verified. They used the Stumpage Price Report Winter 2018 #92. The Hudson/Mohawk area is where the project falls and is what is referenced.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): M

NIR 20 Dated 19 Apr 2019
Standard Reference: ACR Standard 5.0
Sec. A.4.2
Document Reference: Albany_ACR_GHG_plan_2_19_2019
Finding: The standard states " IFM baseline modelling must include all relevant legal constraints, including Safe Harbor Agreements, legally binding Best Management Practices, restrictions related to endangered or threatened species, and any conservation easements (in place more than 1 year prior to the Start Date)." The GHG plan references a conservation easement in numerous locations, please provide evidence of the easement for verification.
Project Personnel Response: The final signed conservation easement can be found in shared dropbox - Albany Water Authority SIG-SCS shared\Conservation Easement\Albany Water Board CONSERVATION EASEMENT - EXECUTION VERSION (Final w-Exhibits and signed page).pdf
Auditor Response: The client provided the conservation easement for assessment. It matches the tax parcels and goals found in the GHG plan. This finding is closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NIR 21 Dated 19 Apr 2019
Standard Reference: ACR Standard 5.0
Sec. A.4.2
Document Reference: Albany_ACR_GHG_plan_2_19_2019
Finding: The standard states " IFM baseline modeling must include all relevant legal constraints, including Safe Harbor Agreements, legally binding Best Management Practices, restrictions related to endangered or threatened species, and any conservation easements (in place more than 1 year prior to the Start Date)." The GHG plan references a FSC certification which the project was working to acquire during the site visit. Please provide evidence of this certification or license number for verification.
Project Personnel Response: The final signed conservation easement can be found in shared dropbox - Albany Water Authority SIG-SCS shared\Conservation Easement\Albany Water Board CONSERVATION EASEMENT - EXECUTION VERSION (Final w-Exhibits and signed page).pdf
Auditor Response: Upon issuance of this finding, the client provided a copy of the conservation easement which references the FSC certification. Upon further investigation, the FSC certified area falls under the Nature Conservancy's "Working Woodlands project" found in "AWB_FINA:_ForestMgmtPlan_revised DRAFT for Public Review_October 12 2018.pdf." This adequately satisfies the original finding related to verifying the FSC status. This finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NIR 22 Dated 20 May 2019
Standard Reference: ACR Forest Carbon Project Standard V2.1
Document Reference: Albany_ACR_GHG_plan_2_19_2019
Finding: The ACR Forest Carbon Project Standard V2.1 states the following (p. 25):

"To apply the common practice test, the Project Proponent shall evaluate the predominant forest industry technologies and practices in the project's geographic region, as determined by the degree to which those technologies or practices have been adopted in that region, regulatory framework, forest type, and by similar landowners. The Project Proponent shall demonstrate that the proposed project activity exceeds the common practice of similar landowners managing similar forests in the region. Common practice for large industrial vs. small non-industrial private landowners, or public vs. private forest lands, or for different forest types on similar ownership types, may be very different."

The language suggests that public/private ownership status should be considered a factor in determining what is a "similar" landowner. Please provide evidence for how the project passes this test specifically within a public landowner scenario in the region.
Project Personnel Response: In response to this finding, a signed attestation statement has been prepared by a certified forester Wayne A. Tripp (from F & W Forestry) with experience in forestry projects associated with water supply lands. Mr Tripp attests that the baseline assumptions used for the Albany Water Board - Improved Forest Management GHG Project Plan are justified given his experience in practicing Timber Management on water supply lands in New York. The signed attestation statement is provided in the shared dropbox folder - Albany Water Authority SIG-SCS shared\Issue Logs\ACR_TNC_Findings_V5-1_091318_SIG\Finding 22\F&W_AlbanyWaterBaselineAttestation-signed.pdf.
Auditor Response: The client provided a signed attestation that states clearly how the project meets the common practice of the area with similar owners. Specifically, "we find these baseline assumptions are possible to reach and justifiable relative to the forest management practices of other water supply lands and similar landowners." Upon review the items summarized seem adequate for this requirement, this finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

OBS 23 Dated 24 Jun 2019
Standard Reference: acr-monitoring-report-template_version-1.pdf
ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands Version 1.3

Document Reference: Albany_ACR424_MonitoringReport_060619_V008.docx
Finding: Section VI of the monitoring template references the GHG Emission Reductions and Removals (Baseline Emissions, Project Emissions, Leakage Emissions, Buffer Pool Contribution, and Net GHG Emissions Reductions/Removals). Instructions read "Provide a summary calculation of project/baseline/buffer pool/leakage emissions; attach as an appendix, a spreadsheet documenting project emissions quantification." Section 5 instructions read "State the net GHG emission reductions; provide a summary calculation showing the net GHG emission reduction/removal calculation as required by the relevant methodology." This is an observation that the information provided in the latest monitoring report focuses on the first part of the instructions, which is to provide a summary calculation or to state the reductions, which has been done so with a table for each section. Although an appendix and workbook exist that showcase these calculations, they are not referenced in the monitoring report. The relevant methodology referenced in the instructions, shows clear equations for how to calculate all these emissions/reductions. However, these equations are not provided or referenced here either. This observation highlights the lack of information in this section and the potential for more detailed reporting.
Project Personnel Response: an appendix (Appendix 1) that includes calculation details has been included in the monitoring report (version 009)
Auditor Response:
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C

NCR 24 Dated 18 Jul 2019
Standard Reference: ACR Standard 5.0
Sec. A.3.3 Eligibility Criteria
Document Reference: Albany_ACR424_MonitoringReport_060619_V008.docx
Albany_ACR_GHG_plan_2_19_2019.docx
Finding: Table 4 of the referenced section (A.3.3) defines the Start Date Criterion. After various emails back and forth about the Start Date (September 30th, 2017), no documents meet the criteria listed in Table 4. Please provide documentation for justification of the Start Date.
Project Personnel Response:
Auditor Response: The client provided an updated GHG plan and Monitoring Report with an updated Start Date (October 1, 2017). This date references "The Start Date reflected in the GHG Plan also corresponds with the initiation of a contractual negotiations (September 13, 2017) between Project Proponent and SIG to develop the carbon project (as indicated in agreement – services to develop the project to start October 1, 2017)." They provided the agreement in the pdf file "SIG_NY_Albany_Carbon_9-13-2017_contract_executed_rdact." The finding is now closed.
Bearing on Material Misstatement (M) or Conformance (C) (M/C/NA): C