EXHIBIT A-1: SCOPE OF WORK

Project Description
CannonDesign has been selected by the University at Buffalo (UB) to complete the following Scope of Work tasks and deliverables. NYSERDA funding will be paid directly to CannonDesign, the "Applicant", pending completion of deliverables. UB will coordinate and manage the Applicant and is responsible for the remainder of project costs.

I. INTRODUCTION

The objective of this project is to create an integrated energy and climate action plan that leverages UB's original 2009 Climate Action Plan (CAP). This Scope of Work describes the tasks that will be performed by the Applicant in collaboration with UB to create the Integrated Collaborative Energy & Climate Action Plan (ICECAP), which will take the form of a physical report and a web-based interactive plan for UB stakeholders.

A detailed review of UB's existing 2009 CAP reveals vast opportunities to leverage data at a more granular level. The goals to be achieved by 2030 include 50% electricity from renewables, 40% reduction in greenhouse gas (GHG) emissions from 1990 levels and a 23% decrease in building energy usage from 2012 levels. UB is aware of the importance of GHG emission reductions for the campus not only for moral/environmental reasons, but also for long-term financial viability and resilience. Achieving these goals requires asking the right questions and following through with data to track progress. To that end, the existing 2009 CAP requires a major overhaul and updating to serve as a driving force behind the aggressive goals established by UB, New York State and the Paris Climate Accords.

Completing the ICECAP will allow UB to clearly identify "**why**" the GHG emission reductions are crucial to the campus community and Western New York today and in the decades to come. Through data analysis and verification of assumptions, the ICECAP will also address "**what**" has changed since the 2009 CAP. Once the updated GHG emission baseline is established and verified, the ICECAP will be developed in the format of an interactive document so that stakeholders can better access the data with more clarity and implement solutions on an ongoing strategic basis.

One of the missing pieces in the 2009 CAP was a clear detailed pathway to GHG reductions and carbon neutrality. The ICECAP will illustrate a clear map of "**how**" the reduction goals can be achieved. Finally, the ICECAP will identify "**who**" (within UB) is responsible for specific efforts to reduce emissions and what their long-term involvement will be along with the entire campus community. The final report is anticipated to include, but not limited to, the following sections as a framework. The roles of UB and the Applicant are identified to ensure successful implementation and execution of the ICECAP.

1. Executive summary [UB + CannonDesign]

2. Introduction **[Why]**
   - Why GHG emissions reduction for UB? [UB]
   - Why do these GHG goals and aspirations matter to UB? [UB]
   - What are the known human and capital limitations? [UB]

- Why resiliency is relevant with changing weather patterns? [CannonDesign]
- GHG emission reduction goals and timeline [CannonDesign]

3. UB's Greenhouse Gas Footprint **[What]**
   - Existing data exchange [CannonDesign + UB]
   - GHG calculation assumptions [CannonDesign]
   - Complying with Second Nature's carbon neutrality commitments [CannonDesign]
   - Updated GHG baseline [CannonDesign]
   - Data visualization [CannonDesign]
   - Process toward automation of annual GHG calculation [CannonDesign + UB]

4. Impact of Innovative Strategies **[How]**
   - University peer best practices [CannonDesign]
   - GHG reduction strategies: [CannonDesign + UB]
     - ✓ Behavioral
     - ✓ Policy
     - ✓ Technological
     - ✓ Financial
   - Resilience-building strategies
     - ✓ Community level solutions
     - ✓ Building level solutions
   - Business as usual, worst and best-case reduction scenarios [CannonDesign]
   - Initial cost and payback of strategies [CannonDesign]
   - Operations as a teaching and research tool (campus as a living laboratory) [UB]

5. Path to Carbon Neutrality **[Who]**
   - Engagement with the campus community [UB]
   - Prioritize Actions [CannonDesign]
   - Allocate Responsibilities [UB]
   - Track Progress [CannonDesign + UB]

6. UB Members and Community Actions **[Who]**
   - Role of individuals [UB]
   - Incentives beyond campus [CannonDesign + UB]

II. STATEMENT OF WORK

The tasks below describe the scope and extent of work that will be performed by The Applicant and UB to update the ICECAP document. The deliverables at the end of each stage will be prepared in direct collaboration with UB's Associate Vice President for University Facilities and the Chief Sustainability Officer as well as other key stakeholders within UB.

Task 1 – Establish a Data-Driven Baseline

Task Description: The Applicant will collaborate with UB stakeholders to leverage the existing data and bridge the gap with a combination of data analytics, selective surveys, research and building energy modeling to establish a detailed breakdown of building, mobility and materials related to the GHG emission inventory. This task includes multiple meetings on campus and data exchange between UB and the Applicant to leverage existing information and stakeholder feedback. This effort will solidify existing campus level information and add to it by increasing data at building/department level, which will pave the way for a successful campus-wide recalibration of goal setting. Metrics will be discussed in advance to ensure the goals are set in a manner that can easily be evaluated.

Task deliverables: Detailed breakdown of building energy use, travel and material-handling related GHG emissions for the entire university. An interim GHG emissions assessment report will be provided (Task 1a) before finalizing the findings in the final report (Task 1b) so that inputs can be cross-checked by key UB stakeholders and meet Second Nature reporting requirements. Reported data/metrics include but are not limited to:

- Scope 1 Emissions:
  - Modeled/measured onsite fossil fuel and fugitive GHG emission equivalent (Ton CO_2-e)
- Scope 2 Emissions:
  - Modeled/measured building energy use intensity (kBtu/ft2) and equivalent (Ton CO_2-e)
  - Modeled/measured building energy demand peaks (kW) – to be used for peak shaving strategies
- Scope 3 Emissions:
  - Campus-wide travel/commute related GHG emissions (Ton CO_2-e/miles traveled)
  - Campus-wide material-handling GHG emissions (Ton CO_2-e/ton materials)

Task 2 – Propose Innovative Reduction Strategies and Quantify the Impact

Task Description: The detailed baseline established in Task 1 will identify the largest contributors to GHG emissions. The Applicant will review the updated baseline and existing campus master plans to identify the most effective energy strategies that leverage existing infrastructure and human capital. The goal will be to leverage the existing plant capacities and expand to a more electric-based energy source that can be offset with a variety of generation sources leading to carbon neutrality. Resilient design will be at the forefront when considering solutions. To this end, UB and the Applicant will quantify the cumulative impact of GHG reduction and electricity generation strategies not only from the GHG standpoint but also from economic viability in relation to existing and future initiatives. This approach will provide UB stakeholders with metrics required to make capital planning decisions moving forward. These metrics will have the blueprint of a "triple bottom line" framework at their core which ensures the viability of solutions are assessed through Environmental, Social and Financial criteria.

Task deliverables: In collaboration with UB's Associate Vice President for University Facilities and the Chief Sustainability Officer, a draft ICECAP which will include but is not limited to:

- A comprehensive list of strategies to reduce GHG emissions, categorized by:
  - Short-term
  - Mid-term
  - Long-term
- Measure stand-alone impact of each strategy to reduce GHG emissions
- Quantify the cumulative impact of strategies to reduce GHG emissions
- Quantify the cumulative impact of strategies to produce/purchase electricity to offset emissions
- Quantify the cumulative financial, social and environmental impact of strategies on UB's campuses

Task 3 – Prioritize Actions and Assemble the Final Report

Task Description: UB's existing 2009 CAP depicts a comprehensive picture of potential actions and strategies that can lead to GHG emissions, but the document lacks specificity and actionability, largely due to lack of granular data. The Applicant will closely work with UB's Associate Vice President for University Facilities and the Chief Sustainability Officer to prioritize the list of action items that will be implemented at the campus and building levels.

Task deliverables: The final ICECAP, which will be published by UB and used as a tool to engage the campus community to achieve the GHG reduction goals. The plan will contain specific actions and timelines to achieve those impacts. The tool will also be established in a manner that will allow for performance to be measured and/or updated at the local and/or departmental level at the end of each year so that data can

be shared in full transparency and used to empower all parties and ensure accountability.

Student Intern

A student intern will be hired by the Applicant to assist with tasks 2 and 3. The student will more specifically assist with the subtasks to develop reduction strategies and quantify the impact of measures by researching the available technologies and market best practices. The student intern will also assist with the development of the final report by participating in the student community outreach and collecting student feedback to create the final list of strategies and initiatives in the report.

Deliverables:

- Student-authored report of activities completed and outcomes achieved as part of internship
- Contribution to portions of the ICECAP, as noted above

III. PROJECT SCHEDULE

Task	Description	Weeks from Notice to Proceed
1a	Interim GHG inventory report	1-11 weeks
1b	Final data-driven GHG baseline report	12-21 weeks
2	Propose innovative reduction strategies and quantify the impact – issue draft report	22-35 weeks
3	Prioritize actions and assemble final report	35-52 weeks

IV. PROJECT COST

Task	CannonDesign Project Manager	CannonDesign High Performance Energy Analyst	CannonDesign Sustainability Coordinator	Sub-total Hours/Fee
Task 1				
Kickoff Meeting/Visioning	8	8	8	24
Data Exchange & Analysis	8	40	8	56
Initial Assessment Report (Task 1a)	8	40	8	56
Strategy Meeting	8	8	8	24
New Data Collection	8	120	40	168
New Data Analysis	4	80	32	114
Baseline Report (Task 1b)	4	24	16	44
				0
Task 1 Hours	**48**	**320**	**120**	**488**
Task 1 Cost	**$7,129**	**$36,350**	**$10,264**	**$53,744**
Task 2				
Develop and organize strategies	4	40	32	100
Recommended strategies workshop	8	8	8	32
Quantify the measures (Draft Action Plan)	32	60	32	232
Task 2 Hours	**44**	**108**	**72**	**224**
Task 2 Cost	**$6,535**	**$12,268**	**$6,159**	**$24,962**
Task 3				
Prioritization Workshop	8	8	8	32
Draft Final Report	8	32	8	104
Incorporate UB & NYSERDA Comments	8	32	16	56
Task 3 Hours	**24**	**72**	**32**	**128**
Task 3 Cost	**$3,565**	**$8,179**	**$2,737**	**$14,481**
Total Hours	**116**	**500**	**224**	**840**
Direct Labor Rate	**$49.02**	**$37.49**	**$28.23**	
Multiplier (3.031)	**3.03**	**3.03**	**3.03**	
Total Project Cost	**$17,230**	**$56,797**	**$19,160**	**$93,187**
			UB Cost-Share (25%)	**$23,297**
			NYSERDA Cost-Share (75%)	**$69,890**
			NYSERDA Student Intern Bonus	**$4,000**
			Total NYSERDA Cost	**$73,890**