Proposal Details

G Hendrix

Section 1: Summary Information

* Project Title:	Reduction in Urban Heat Island Effect: Cool Roof Strategies
* Duration (months):	6
* Total Budget ($):	$5,872.00
* Requested SGEF Funds ($):	$5,872.00
* Matching Funds ($):	$0.00
* Proposed Starting Date:	1/1/2018
PI Graduation Date (if applicable):	5/6/2018

Section 2: Applicant Information

	Full Name	Unit/Department	Phone	Email
* Principal Investigator	Syed Sadiq Suheb	Mechanical Engineering	8138166237	sadiqsuheb@mail.usf.edu
Investigator 1	Suchi Daniels	Facilities Management-Planning, Sustainability	(941) 545-8	suchitramba@usf.edu
Investigator 2	Ashini Vashi	Environmental Engineering	8633378934	aav3@mail.usf.edu
Investigator 3				
Investigator 4				

Section 3: Project Description

* Project background and purpose (reasons motivating request) (Max 500 words)

Cool Roofs, also known as Reflective roofs can provide a cost effective way of saving energy and meeting sustainability goals for a building. Analysis for the present standard darker gray surfaced product vs white surfaced roofing product Derbicolor GP FR CR (Cool Roof) is carried out and CPH roof replacement which is already a funded project, only the incremental cost to provide roof layer will be needed. A cool roof would reflect more sunlight (high reflectance) and release more absorbed heat (high emittance) than a standard roof, resulting in a cooler roof and building and eventually lead to reduction carbon footprint and energy as well as cost savings.

* Project activities (Max 250 words)

With SGEF funding, this project will provide a cool roof to the CPH building. The project will be implemented through normal USF construction process of project management which includes design, bidding, permitting, and installation. Expected time frame for completion of this project is four months.

* Project results (Max 500 words)

A cool roof improves indoor comfort for spaces that are air conditioned such as garages. Decreases roof temperature that eventually extends roof service life. Also reduces local temperature called the Urban Heat Island effect. Reduce power plant emissions, including carbon dioxide, sulfur dioxide, nitrous oxide, and mercury, by reducing cooling energy

By using the EPA Greenhouse Gas emissions calculator we come to a result of reduction of carbon footprint by 5.5 metric tons of through reduction of 7349 kWh of electricity resulting in annual savings of $557.78 by the installation of cool roof layer. The project is expected to have a payback of 10.5 years. (calculations attached in the file)

* Annual Energy Savings	7,349 kWh
Annual Cost Savings	$808.39
Return of Investment in %	0.14
Annual Green House Gas Reduction	0.00

* Project Sustainability (Max 200 words)

This carbon foot print reduction is equivalent to, CO2 emissions from various sources like 5984 pounds of coal burnt or Greenhouse gases emissions from 13,405 miles driven by an average passenger car. Facilities Management has agreed to maintain the roof, thus ensuring sustainability of the project and no further cost to SGEF.

Section 4: Workplan and Budget Details

* Detailed work plan/schedule of activities (Max 250 words)

The space impact form (17-412 cph) is complete and we will be working with Project Manager Wayne Richter according to his schedule that starts in January 2018.

* Budget breakdown
