

Memorandum of Understanding

This Memorandum of Understanding (the "MOU") is made on the 17th day of June 2020, by and between Chabot Las Positas Community College District, Las Positas College, of 3000 Campus Hill Dr, Livermore, California 94551 (hereinafter referred to as "CLPCCD-LPC") and HEN Nozzles LLC, of 3650 Pinon Canyon Ct, Castro Valley, California 94552 (hereinafter referred to as "HEN") for the purpose of achieving the various aims and objectives relating to the NSF SBIR Phase-I project (the "Project").

WHEREAS CLPCCD-LPC and HEN desire to enter into an agreement in which CLPCCD-LPC and HEN will work together to complete the Project;

AND WHEREAS CLPCCD-LPC and HEN are desirous to enter into a Memorandum of Understanding between them, setting out the working arrangements that each of the Partners agree are necessary to complete the Project;

Purpose

The purpose of this MOU is to provide the framework for any future binding contract regarding the NSF SBIR Phase-I project between CLPCCD-LPC and HEN.

Obligations of the Partners

The Partners acknowledge that no contractual relationship is created between them by this MOU, but agree to work together in the true spirit of partnership to ensure that there is a united visible and responsive leadership of the Project and to demonstrate financial, administrative and managerial commitment to the Project by means of the following individual services.

Cooperation

The Partners will endeavor to have final approval and secure any financing necessary to fulfill their individual contributions at the start of the planning for the development of the Project. The activities and services for the Project shall include, but not limited to:

- a. Resources rendered by CLPCCD-LPC include:
 1. Provide space for controlled fire suppression studies to be conducted by HEN.
 2. Provide controlled access and use of high pressure water source for nozzle optimization.
 3. Identify suitable candidates for internship from the Fire Academy at LPC to work on the said project for fire suppression studies.

- b. HEN hereby agrees to provide the following financial, material and labor resources in respect of the Project:
 1. HEN Nozzle will pay a rental fee of \$2000.00 a month for the use of space for the experiments. The experiments would be for NSF SBIR phase 1 grant. The purpose of the experiments would be evaluation of fire suppression efficiency of

various fire hose nozzles. The fire-suppression studies would be conducted over a period of 3 months. Studies for Flow modulation mechanism development would be conducted over a period of 2 months. The details of all the tasks conducted by HEN Nozzles are as follow:

1. Objective: Fundamental studies of Nozzle geometry vs stream parameters:
Resources required: Access to high pressure water source
Details of the task: HEN would gather detailed stream characteristics for various nozzles including GPM efficiency, range and surface area of the final stream. The task would allow HEN to validate the fluid dynamic simulation models and have empirical relationships including but not limited to: Residual pressure and GPM efficiency. These would be key to optimize the fluid dynamic simulation model and develop the final nozzles.
 2. Objective: Understand Fire suppression rates of various nozzle geometries
Resources required: Access to high pressure water source; space to setup burn pits to do fire suppression studies.
Details of the task: The objectives of the task would be to (1) Gather data to develop a model between key stream characteristics and fire suppression rates. This would lay a foundation of all future nozzle optimizations as a function of fire suppression rate. (2) Comparison of fire suppression rates of HEN nozzles to those of commercially available nozzles.
 3. Objective: Develop flow modulation mechanisms for the optimized nozzles.
Resources required: Access to high pressure water source.
Details of the task: The key objective of the task would be to gather stream characteristics and reliability data for various fire modulation mechanisms for the optimized nozzles.
2. Pay for hiring two interns from CLPCCD-LPC Fire Service Technology Program/Fire Academy or previous Fire Service Technology Program/Academy for 5 months to assist with fire suppression studies @ \$600/month each.

Permits and Regulations

HEN shall be required to follow all rules, regulations, laws and requirements of the District, the City of Livermore, the County of Alameda, any Water and Air District, and shall hold any and all necessary permits to conduct the project. CLPCCD-LPC

Communication Strategy

Marketing of the vision and any media or other public relations contact should always be consistent with the aims of the Project and only undertaken with the express agreement of both parties. Where it does not breach any confidentiality protocols, a spirit of open and transparent communication should be adhered to. Coordinated communications should be made with external organizations to elicit their support and further the aims of the Project.

Indemnification

Parties agree that each shall defend, indemnify, and hold each party and its officers, employees, and agents harmless from and against any and all liability, loss, expense (including reasonable attorneys' fees), or claims for injury or damages arising out of the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of the contractual partners, their officers, employees or agents.

Certificate of Liability

Before the start of work HEN Nozzles will purchase and provide proof of a Certificate of Liability (CoL) insurance for the use of LPC facilities in the amount of one (1) million dollars. Las Positas College must be listed as the certificate holder.

Dispute Resolution

In the event of a dispute between the Partners in the negotiation of the final binding contract relating to this Project, a dispute resolution group will convene consisting of the Chief Executives of each of the Partners together with one other person independent of the Partners appointed by the Chief Executives. The dispute resolution group may receive for consideration any information it thinks fit concerning the dispute. The Partners agree that a decision of the dispute resolution group will be final. In the event the dispute resolution group is unable to make a compromise and reach a final decision, it is understood that neither party is obligated to enter into any binding contract to complete the Project.

Term

The arrangements made by the Partners by this Memorandum shall remain in place from June 17, 2020 until December 16, 2020. The term can be extended only by agreement of all of the Partners.

Notice

Any notice or communication required or permitted under this Memorandum shall be sufficiently given if delivered in person or by certified mail, return receipt requested, to the address set forth in the opening paragraph or to such other address as one party may have furnished to the other in writing.

Governing Law

This Memorandum shall be construed in accordance with the laws of the State of California.

Assignment

Neither party may assign or transfer the responsibilities or agreement made herein without the prior written consent of the non-assigning party, which approval shall not be unreasonably withheld.

Amendment

This Memorandum may be amended or supplemented in writing, if the writing is signed by the party obligated under this Memorandum.

Catastrophic Events

In the event of a catastrophic crisis such as a natural disaster, fires, severe windstorm damage, pandemics, floods, earthquakes, loss of power for excessive days, water shortages and or regulations imposed by the county or state, bad air quality, and or any event deemed by the CLPCCD-LPC as an immediate danger to student and staff safety, it shall have the right to suspend or cancel such project until deemed reasonably safe as determined by the governing board.

Severability

If any provision of this Memorandum is found to be invalid or unenforceable for any reason, the remaining provisions will continue to be valid and enforceable. If a court finds that any provision of this Memorandum is invalid or unenforceable, but that by limiting such provision it would become valid and enforceable, then such provision will be deemed to be written, construed, and enforced as so limited.

Prior Memorandum Superseded

This Memorandum constitutes the entire Memorandum between the parties relating to this subject matter and supersedes all prior or simultaneous representations, discussions, negotiations, and Memorandums, whether written or oral.

Understanding

It is mutually agreed upon and understood by and among the Partners of this Memorandum that:

- a. Each Partner will work together in a coordinated fashion for the fulfillment of the Project.
- b. In no way does this agreement restrict involved Partners from participating in similar agreements with other public or private agencies, organizations, and individuals.
- c. To the extent possible, each Partner will participate in the development of the Project.
- d. Nothing in this memorandum shall obligate any Partner to the transfer of funds. Any endeavor involving reimbursement or contribution of funds between the Partners of this Memorandum will be handled in accordance with applicable laws, regulations, and procedures. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the Partners involved and shall be independently authorized by appropriate statutory authority. This Memorandum does not provide such authority.
- e. This Memorandum is not intended to and does not create any right, benefit, or trust responsibility.
- f. This Memorandum will be effective upon the signature of both Partners.
- g. Any Partner may terminate its participation in this Memorandum by providing written notice to other Partner.

The Partners support the goals and objectives of the NSF SBIR Phase-I project:

Signatories

This Agreement shall be signed on behalf of Las Positas College by **Doug Roberts, Acting Vice Chancellor of Business Services** and on behalf of HEN Nozzles LLC by **Sunny Sethi**. This Agreement shall be effective as of the date first written above.

Chabot-Las Positas Community College District
By _____, Date _____

HEN Nozzles LLC
By _____, Date _____