Background: Currently there is little or no guidance concerning the design, materials, construction features, and initial acceptance testing and certification, as well as for scheduled recurrent testing and certification (for life safety use) of anchor points used at training facilities that conduct technical rope rescue. There are some elements of the OSHA fall protection standard that exist as statutory language however this data is not applicable to the use case presented in a technical rope rescue training environment. Training facilities utilize many different types of anchor points to affix lifeline systems when performing technical rescue training, and currently there is a void regarding specifications for construction, inspection, maintenance, and regular recertification. There is a need to examine existing protocols to identify and better define these critical guidelines, which we are tasked with addressing in the scope of NFPA 1402 Guide to Building Fire Service Training Centers.

Research Goal: Analyze and review the existing standards and literature to identify recommended construction features, materials, and installation techniques for anchor points affixed to training structures or other facilities within the scope of NFPA 1402.

Project Tasks: This project is comprised of two primary tasks:

1) Literature Review. Identify and review information on testing anchor points. This may include a fundamental engineering analysis of the static and dynamics loads on fixed points applied by a rope rescue system.

2) Information Gathering. Identify other industries (crane, rigging, theatrical, etc.) that may have data and testing guidelines. Conduct targeted information gathering from information sources including technical climbing equipment design, manufacturing, and training field.

3) Engineer Analysis. Conduct an engineering analysis to determine limits of anchor point based on construction features (e.g. location, material, affixation).

How this information will be used: This information will be used by the NFPA Technical Committee on Facilities for Fire Training and Associated Props.