Project Summary

The City of Syracuse is a historically divided city. Interstate 81 has separated neighborhoods of this Central New York location for 60 years. This viaduct and accompanying highway networks have separated the downtown and low-income southern neighborhoods from Syracuse University and Upstate University and Crouse Hospitals. The highway system was undesired by city officials and the community, but was imposed on the community shortly after the Federal-Aid Highway Act of 1956 was signed by President Eisenhower. Since the viaduct has reached the end of its useful life, ideas and new options for property development have gained precedence. Through new zoning and planning regulations, the city has targeted the East Adams St. neighborhood as a focal point for revitalization and business districts. In addition, this neighborhood has been a focus for investment due to its proximity to existing anchors such as community centers and public schools.

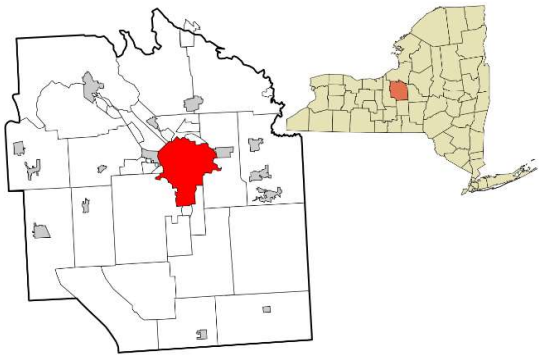

Figure 2. Location of Syracuse, NY

A publicly and privately financed plan for community development, widely known as the "Syracuse Surge" is under way, bringing new resources and opportunity to the city. With more than $100 million invested in the East Adams St. neighborhood, the Surge has been designed to combat poverty and target the quality of education, housing, and wellbeing of the community. This proposal further reinforces the ideas and plans provided by the city officials and SHA to draw the city out of the extreme poverty that currently exists and implements new zoning, investment and construction concepts derived from a program known as Purpose Built Communities. The Purpose Built model has proven to successfully remediate poverty issues throughout the U.S. using three impactful pillars: mixed income housing, a cradle to college education pipeline, and community wellness. These pillars align with the objectives of Syracuse Energy and the lasting impact of *SEED*. By working directly with SHA, Syracuse city officials, and community members, Syracuse Energy is in a unique position to deliver a high-quality net zero energy design that will be considered by both SHA and its master developer, to advance the city's future. By going above and beyond the competition requirements, Syracuse Energy has brought tremendous relevance and real-world application to make sustainable construction methodology mainstream in Syracuse, New York. Through collaboration with various stakeholders, hosting numerous charrettes, and engaging industry partners, the Syracuse Energy team has worked to develop a practical approach to net zero energy building which can be adopted by the surrounding construction industry.

The building lot selected is on the southern end of the East Adams St. neighborhood, approximately a third of a mile from the Syracuse University campus, and just over half a mile to the center of downtown. This lot has been identified by SHA as degraded and is subject to new development in the next two years, after the removal of the current buildings. The entire 13-acre development, known as Langston McKinney Manor, is occupied by 75 townhouse units, centralized in the redevelopment zone outlined by the SHA and city. The vision for this site is to subdivide the lot and densify the housing units into 150-200 apartments across the entirety of the expansion. Syracuse Energy has chosen to focus on a 3-acre parcel located on the south end of McKinney Manor, known as Latimer Terrace. The team has identified this location as the hub for future development due to its proximity to the heart of Syracuse's urban grid pattern, diverse use, and mixed income buildings. *SEED* will accommodate the needs of the city, the Housing Authority, the community, as well as act as an example of sustainable development.

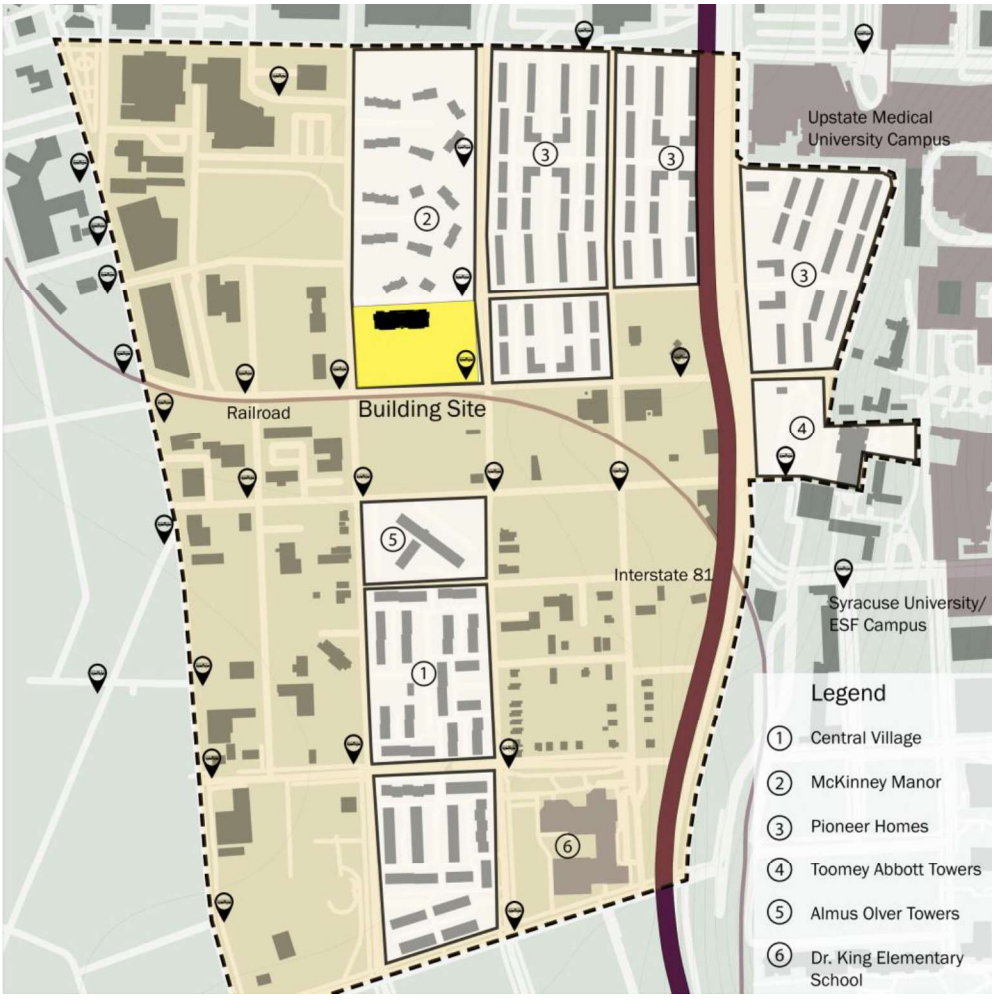

Figure 3. Build site and SU & ESF Campus

Undoubtedly, *SEED* will fill a niche market by incorporating mixed use, multi-family designed apartments. The building layout includes one- and two-bedroom apartments as well as a commercial aspect to provide residents of the neighborhood with a daycare service for 3 to 12-year-old children, which is absent from the current community. Beyond satisfying the needs of new development and the public, *SEED* will reach the net zero energy targets necessary for this year's Solar Decathlon Design Challenge. These targets will be attained through passive design, innovation, renewable energy, and energy conservation. Passive design is at the core of the Solar Decathlon and was implemented by using the PHIUS 2015+ Multifamily, as a tool to deliver a realistic net zero energy building.

The origin of the architectural design began with modular unit packages. Through this design strategy, we have ensured occupant health and comfort, and exemplified energy performance. For example, heating, cooling, and ventilation will be provided using a geothermal heat pump system in conjunction with energy recovery ventilation. To achieve healthy indoor environmental quality, the team has focused on source control, filtration, and dilution of indoor air contaminants. Additionally, Syracuse Energy has designed to real world constraints by ensuring a rapid construction schedule using prefabrication techniques so that *SEED* can be occupied in a timely manner for future tenants. This was held as the utmost importance by both Syracuse Energy and SHA due to the redevelopment and displacement of the current tenants in McKinney Manor.

The *SEED* building was designed with the intent of being constructed as a catalyst for the City of Syracuse by influencing sustainable practices in the area. This will be achieved through producing construction documents accurate to local building codes and zoning regulations for the site, while accommodating market needs for low income housing. Syracuse Energy has immense support regarding these parameters from city officials and numerous building industry professionals, and hopes that *SEED* will be more than an innovative net zero design- it will be a benchmark for all new and existing buildings in Syracuse.