

HLC Application Narrative for 801 Theresa Ave Remodel/Addition

We are proposing to bring 801 Theresa Ave, a 100 year old house, built to 100 year old standards and lifestyle, to the forefront of sustainable design in Austin. Not only will it be built to maintain its historic character and charm, it will be the first structure in Texas to meet the Passive House standard - the most rigorous and energy efficient building code in the world.

Taking a house that was far from cutting edge when it was built over 100 years ago, and making it one of the most progressive structures in the state today poses some challenges, but also brings with it ample rewards. This will be a shining example of how to update a historic home - to make it comfortable, durable and energy efficient. It will be 90% more efficient than a house built to current code - imagine what an improvement that will be to a house built with no insulation or air sealing whatsoever? Historic homes are the low hanging fruit - we are currently using incredible amounts of energy to heat them and cool them mechanically - something they were not designed or built for. By updating this house to Passive House standards it will show that historic housing stock can be saved and updated responsibly, even to cutting edge efficiency.

Windows - the windows are to be new Marvin triple paned casement and fixed windows. They are incredibly air tight and energy efficient, but also beautiful. Marvin specializes in historic window profiles and we will be using faux double hung profiles that will indistinguishable from our existing double hungs from the street. We explored keeping the original windows and using interior storm windows like Indow Windows. While these interior storm windows are a huge upgrade from stand alone single pane windows both in thermal and infiltration performance, they are still not even as high performing as new double pane windows. We need windows with U-values close to .23 or below - Indow Windows inserts with single pane windows have U-values at .53 and the air tightness is not even close to what we need. In a house so close to the freeway in our climate we rarely if ever open our windows and it seems a shame to have so many windows that are operable for no purpose. Instead to keep costs and infiltration low, we will have mostly fixed windows with strategically placed operable windows that can be used to create cross breeze natural ventilation on good days during the shoulder seasons or during prolonged power outages. <https://indowwindows.com/performance/> see below for Marvin profiles.

Siding, trim, detailing - siding and other exterior detailing is to be repaired and replaced where necessary. We may need to pull all of the siding off to install insulation and structural sheathing. We are exploring options to insulate from the inside but it may not be feasible due to building science best practices and structural sheathing needs. It is an ongoing conversation with our builders, who specialize in historically mindful renovations, our architects and our envelope consultant. Regardless of which route we go to insulate, the existing siding is of a standard profile - 6" V-Groove, which is easily replaced if need be so the end result will be consistent with the current siding. All original detailing - the trim around the windows, brackets at the overhangs, columns at the front porch, etc will be repaired where necessary and restored to the original state. We are also planning on reusing and restoring the original hardwood flooring and much of the interior shiplap will either be exposed or repurposed within the house. Any materials not reused in the house will be donated or recycled.

Roof - One of the reasons for buildings to these rigorous standards is durability and energy efficiency. Passive House is a finely tuned standard that targets the point of diminishing returns on insulation and air sealing. What that means is that we will be putting a small PV array on the rear addition that will generate more power than the house uses, actually putting clean energy back into the grid. PV panels have a

lifetime far longer than asphalt shingle roofs, so putting them on shingle roofs does not make sense. Asphalt shingle roofs also generate heat, adding to the urban heat island effect and adding to the cooling loads of the houses they shelter. The original roof was likely a wood shake shingle, but that is also not feasible. Metal roofs have a high Solar Reflectance Index (SRI), upwards of 3x higher than shingles depending on color, which means that they do not add to the cooling load on hot sunny days. In our conversations the Preservation Austin and the Preservation office, metal roofs came up as another point of contention. However after deliberating on the aforementioned benefits of metal roofs vs the cost and aesthetic benefits of shingles and noticing that 1 in 3 homes in our area that are listed as 'contributing' have metal roofs, we decided to go with metal. Were we to use asphalt shingles we would need to increase the insulation of our roof assembly or paint them with a high albedo reflective paint in order to meet our energy goals. We welcome feedback from the Preservation office as to what color/finish and seam type, etc would be most appropriate.

Entry door - granted this, in a preservationists eyes, is the big change to the existing building and the one not related to our energy efficiency goals. However, the layout of the front room is directly affected by the door location, and the layout is currently awkward and necessitated a change. Moving the door only a few feet allows for a dramatic shift in how the front spaces can be used and laid out and makes best use of limited square footage in a small urban home. We spent a lot of time deliberating with multiple architects and designers early on and returned to it again after discussions with the HPO and members of Preservation Austin. What is proposed is, in our eyes, the best solution, and one not taken lightly. As drawn, the front door does not dramatically change the front entry sequence visually, but, coupled with its sidelight, it does hint at the more contemporary changes made inside and to the back of the house. It is a subtle nod at the experiences to come in the entry sequence and as the only visual change to the street side facades of the existing house, we felt that it was an appropriate compromise. The door itself is currently not original and the replacement will be a well studied choice that is has a strong historic craftsman tone along with its sidelight. We have an idea of what we want and are hoping to confer with the HPO as we make a decision. There are many good examples of original craftsman doors in the neighborhood that we are looking to for inspiration.

Thank you for your consideration of our application. We are excited about restoring a great old house in the heart of the city to a bright example of what the future holds. We really tried to keep the original character of the home in mind and hope that you agree.

801 THERESA AVE
HISTORIC LANDMARK COMMISSION SUBMITTAL
11/2017



VIEW FROM THERESA AVE



VIEW FROM 803 THERESA AVE



VIEW FROM 8TH ST



VIEW FROM BACK YARD (SHOWING WALL TO BE DEMOLISHED)



FRONT PORCH AND FRONT FACADE DETAILS