

EGR 495 – Architectural Design Studio

Instructor: Dr. Wunderlich

Semester Design:
Wednesday, 12 May, 2021
Thomas Anthony Giorgi

HOME & SITE VERNACULAR ARCHITECTURE

Design both the Architecture, and Landscape Architecture of the site, for the vernacular of either:

- The British Countryside
- Rural Pennsylvania, or Philadelphia Mainline or Center City
- Japan
- Italy
- Southern California
- A combination of these

EXTRA CREDIT: Coordinate with a classmate so your design is complimentary -- as if you're neighbors

EXTRA CREDIT: Coordinate with the Hi-Tech students creating WUNDERTOWN Railroad so your design fits into that vernacular

REFERENCE

Dr. Wunderlich Lectures (on [YouTube Channel](#) and [Websaver](#) -- with PDF's available in comments):

- [1] "2018 LECTURE: *Frank Lloyd Wright's Organic Architecture*" -- A Dr. W. Research summary of 34 literature sources, and 48 site visits (precursor to upcoming book)
- [2] "2018 LECTURE: *Skeleton Beneath the Skin*" -- in rural Pennsylvania vernacular
- [3] "2011 LECTURE: *Mansion-inspired Modest Architecture*" -- including Philadelphia Mainline vernacular
- [4] "2013 LECTURE: *Japanese Urban Design and Architecture*"
- [5] "2020 LECTURE: *Italian Architecture and Urban Design*",
- [6] "2021 LECTURE: *Fashion Island Mall in Newport Beach, CA*"
- [7] "2019 LECTURE: *ARCHITECTURE THEORY Part 3 Form & Space*" (Lecture #3 of 7 in ART370 "Architectural Design Theory")
- [8] "2018 LECTURE: *Part 2, Frank Lloyd Wright, Ages 20-33(1887-1900)*" -- his most "formative years" (FLW Lecture #2 of 7 in FYS100 "Conceptual Architecture")
- [9] "2019 LECTURE: *31 Frank Lloyd Wright sites visited by Dr. W., plus two FLW influenced family homes*"
- [10] "2018 LECTURE: *Part 7, Frank Lloyd Wright, Ages 79-91(1946-58+)*" -- his Legacy" (FLW Lecture #7 of 7 in FYS100 "Conceptual Architecture")

Dr. Ricci's Lectures (on Canvas):

- [1] "2021 LECTURE: *Arts & Crafts Movement*"
- [2] "2021 LECTURE: *Landscape Architecture*" -- including British Countryside vernacular
- [3] "2021 LECTURE: *Architectural Sketches*"

Dr. Wunderlich & son's ([JJWIV2019&2020](#)) 3D Perspective-drawing and Computer-Modeling Tutorials:

- [1] Perspective Drawing -- including four Video Tutorials by JJWIV
- [2] 3D Modeling Tutorials (Revit vs. Sketchup) by JJWIV
- [3] Revit Tutorial series by Dr. W.

Internet videos for making physical models:

"[Tips & Tricks](#)" "[Material Selection](#)" "[Tools](#)" "[Model Bases & Scale](#)" "[MINIATUR WUNDERLAND](#)" (in Germany)

SINGLE-DOCUMENT-UPLOAD

All narrative and design works in one uploaded document, including all images of all created drawings, models (PHYSICAL or COMPUTER-GENERATED), paintings, etc. -- ANY

MEDIUM YOU WISH: Include:

- 1) Title page with name, year, Major(s) & Minor(s)
- 2) Copy of assignment
- 3) Three paragraphs:
 - A. Paragraph summarizing design, your chosen vernacular, and whether you're making a "statement", or mostly "blending-in" with the neighborhood.
 - B. Paragraph stating specific ARCHITECTURE THEORY from Dr. W's Lecture:
 - "2019 LECTURE: *ARCHITECTURE THEORY Part 3 "Form & Space"*" (Lecture #3 of 7)
 - C. Paragraph stating a specific FRANK LLOYD WRIGHT ORGANIC DESIGN PRINCIPLE from:
 - "2018 LECTURE: *Frank Lloyd Wright's Organic Architecture*" -- A Dr. W. Research summary of several dozen sources, and 48 site visits
 - From Dr. W. lecture series on FLW: "2018 LECTURE: *Part 2, Frank Lloyd Wright, Ages 20-33(1887-1900)*" -- his most "formative years" (Lecture #2 of 7)
- 4) Images of all design works, with captions:
 - ANY BUILT PHYSICAL MODEL (if you choose to do this) must be built to 1/8"= 1 Foot Scale; which is as close as possible in imperial units to the HO Model Railroad scale of 3.5mm - 1 foot (i.e., "1:87" scale). Use chipboard first, for a massing-model(s) or other preliminary study models, then the Bass-wood or Bass-wood for a finished model (because they're expensive) -- or you could use chipboard for that too. Use whatever model bushes and trees you find in studio.
 - E273 tools and materials are free to use (materials are free, and please keep all tools and materials in the studio -- and store work-in-progress wherever you wish -- there's empty space under the counters, in the cabinets around the studio.
- 5) A bibliography must list your scholarly sources for your chosen vernacular, in addition to the above lectures, and any other sources of your choosing

VIDEO UPLOAD & FINAL CRITIQUE

MAX 7-MINUTE LONG

- You may simply display and narrate your uploaded single document, or present and narrate any multimedia production
- Then, on the day after the Single-Document-Upload is due, your video will be played for judges, followed by a Q&A with you

MATERIALS and TOOLS

in Architecture Studio (E273) that you may Use/Borrow, but not remove from Studio without special permission:

Since I was a child around the age of seven when my Father was finally able to build his dream home where we live to this day, I have wanted to follow in his footsteps; however, ideally take it a step further. Not only did I want to avoid the small, relatively insignificant, mistakes he made, I ideally want to build a whole village or small town of sorts as a well planned development project. The village architecture resembles the largely metal and masonry construction of my Mother's family's home village, Comune di Ofena, in the Abruzzo Region of Italy in the mountains East of Roma. My dream home would be an integral part of the village as it is one of the few larger independent buildings compared to the typically urban style of three story row homes we see in many American cities. My dream home also sits on the same portion of land that is used as the primary watershed basin that acts as a reservoir prior to discharging into the downstream creek. While the terrain adjacent to any roads or buildings is heavily modified to accommodate a near zero grade in most cases, the storm water will be directed to this small lake to reenter the groundwater gradually as well as provide for the small dam to be used as a small roughly 100 kW hydroelectric turbine to supply more than enough electricity to my home as well as the two smaller separate homes adjacent to mine for the farmer or family.

With the surroundings aside from what is being set aside for agriculture and protected woodlands being heavily manipulated, my house both makes a statement and blends in with the other architecture of the village. My house would resemble a more modest traditional Italian Villa with a more enclosed or private backyard with a sort of piazza theme in the front driveway as well as the rear terrace that leads to the greenhouse and large vegetable garden. This vernacular resembles a mix between the Italian and Pennsylvanian rural countryside where homes are not far removed from agriculture and woodlands as they are in more urban settings. An important aspect of this house is that it accommodates a larger family of a husband and wife

as well as four to six children without issue. There is also an attached in-law suite in the back that is accessed from the rear terrace.

In terms of architectural theory related to form and space, the house's first floor is elevated about a metre above the surrounding terrain to allow for more than enough water runoff to take place as well as avoiding additional excavation. To maximize the benefit of having as little of the exterior directly exposed to the air, the earth directly against the house will be sloped up even more to provide additional insulation as well as avoid any chance of water pooling against the foundation. To keep the house at a noticeable yet still more modest stature, I want to stress that it is not to be elevated any more than that to avoid a house on a hill over looking the rest of the village sort of monarchical image. As I stated before, most of the topography will be reformed to fit the structures rather than heavily constraining the building layout. Much of the exterior is very simple, rather box like compared to the complex rooflines and series of bump ins and outs of many modern American homes. This is to keep costs down in the framing design complexity to put that into superior building materials. This also minimizes exterior surface area, helping keep heating and cooling costs down. The interior of the building is an area I have somewhat planned out; however, for the sake of time, I will avoid going into it in this project. The exterior roof is almost completely void of random exhaust pipes, skylights, and dormer windows to again maximize insulation as well as avoid disruptions of the simple roof layout aside from two brick and stone chimneys on each side of the house serving as exhaust for the wood and natural gas fireplaces as well as the natural gas appliances that need to be vented on the roof. One aspect of the house and immediate surroundings on the property and their layout is how it is very symmetrical and follows the simple grid pattern of the village overall with the driveways resembling the roads meeting at an intersection to the South and South West. In the

front, the focal point is the flag pole that is purposefully obstructing the direct line of sight from the beginning of the North facing driveway all of the way through the house to the rear terrace. The flag pole flies the American and Italian flags as a nod to my Nationalism towards these two countries that I am proud of and want the best for. Italy defines much of my ethnic, religious, and cultural background while The United States Of America defines the success that my family worked so hard for and the values of Liberty, Independence, and more that I hope we are able to maintain. I am oversimplifying my views, but this house and village as a whole is meant to be a testament to some of my personality even well after I have passed away and go to Heaven. While the majority of the arches in the exterior masonry will likely only be aesthetic and not structurally required, each window and doorway has a slightly decorative brick and stone layout culminating to an arch at the top with keystones. The front terrace also has a balcony above it with four brick and stone posts and three equally sized brick arches. Most of the wall planes are very simple on the exterior with a stone facade up to the first windowsill and brick the rest of the way up overtop of the poured concrete exterior structure. The only deviations from this are likely near the back terrace and North face for bathroom and kitchen ventilation as well as any natural gas appliance and dryer exhaust. There will likely be a hose tap at each of the four corners of the house but besides that, there are to be no obstructions or deviations from the consistent exterior style.

Regarding aspects related to Frank Lloyd Wright organic design principle, there are a few I somewhat touched upon already. Many of these apply to the whole village since the house is to both compliment and stand out from the rest of the village. I chose to use very durable building materials for a number of reasons, most notably concrete, brick, stone, terracotta, aluminium, steel, copper, and more instead of wood and plastic. With a concrete wall with a brick or stone

facade on the outside, the wall comes to roughly 10 inches thick before getting to the interior steel studs for foam insulation and drywall. This acts as an excellent thermal mass complimenting the excellent sealing and vapor barrier properties of a closed cell polyurethane foam. Besides the foam and paper on the drywall, none of these materials are combustible and the thick masonry acts as a noise, bug, and pest barrier, not to mention it being excellent against if a tree were to fall on the house, not that I intend to have any trees that close to the house, or during a storm debris hits the house or someone opens fire on the house, the chances of something penetrating this wall are very slim. While the roof is not as thick, it does serve the same thermal mass purpose and being made of far more durable materials, both the roof and walls should last well into 80 years before needing maintenance. These materials are also much more natural compared to heavily painted wood or plastic siding or synthetic brick or stone. These synthetic materials are much more prone to leaching toxins into the ground and ultimately the water. Since I am in control of what materials I am using on my home, I can limit what materials are leaching what around my house into the farm field and my food supply. I never liked the painted mulch, asphalt driveways, plastic pots, and other garbage materials many consumers use because they have to be constantly replaced and contaminate the ground around them as they quickly fall apart. I can avoid a lot of that maintenance by designing simple landscaping and using durable materials that will cost a lot up front but last well past my lifetime. What is also important is the prevalence of trees, shrubs, potted plants, and other vegetation around the house. I want to keep most large things away from the house to avoid attracting pests and additional storm damage but I love hedges and trees as a natural fence or barrier of sorts. The front driveway is to be lined with likely Red Oak trees on each side to offer shade as a beautiful canopy on the approach to the house while not obstructing the continuous

view to the house or when stopped in the driveway under the trees, one could still easily see the open farm field to the right and the small lake to the left. There are no exposed utilities, and all are buried alongside the side driveway going West of the house where they can be accessed without disturbing the concrete but still be out of sight. The backyard is an open farm field to the wooded portions that lead to the edge of the property and village as a whole. Most trees not in these wooded areas are rather short in comparison as to not obscure the sunlight earlier and later in the day too much since the terrain is rather level around the house and lake.

Materials:

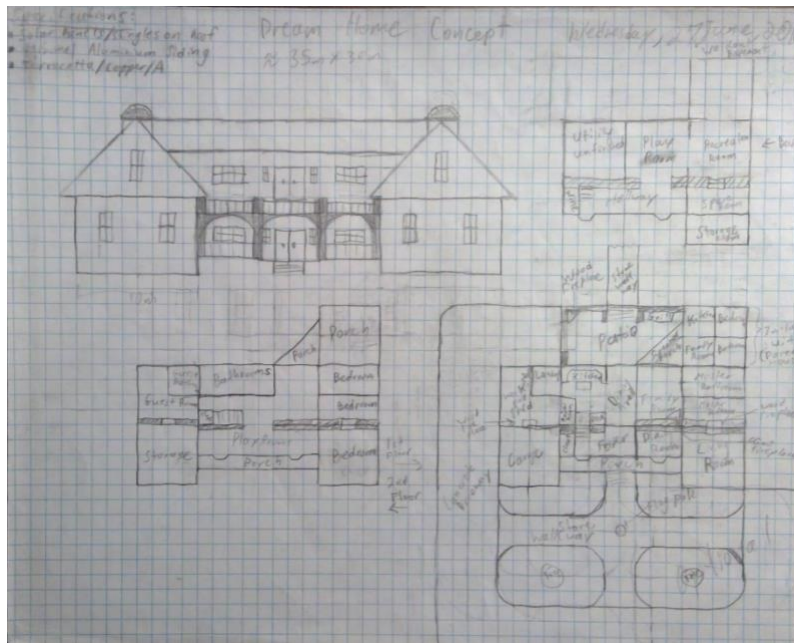
Exterior:

- Poured reinforced concrete foundation floor and walls all of the way up to the roof
- Stone facade up to the first floor windows
- Brick facade above the first floor windows
- Aluminium clad wooden windows
- Terracotta shingles (with some of the roof covered by solar panels for off grid electricity generation)
- Copper sheet roof/flushing for small portions and overhangs where needed
- Copper gutters and downspouts

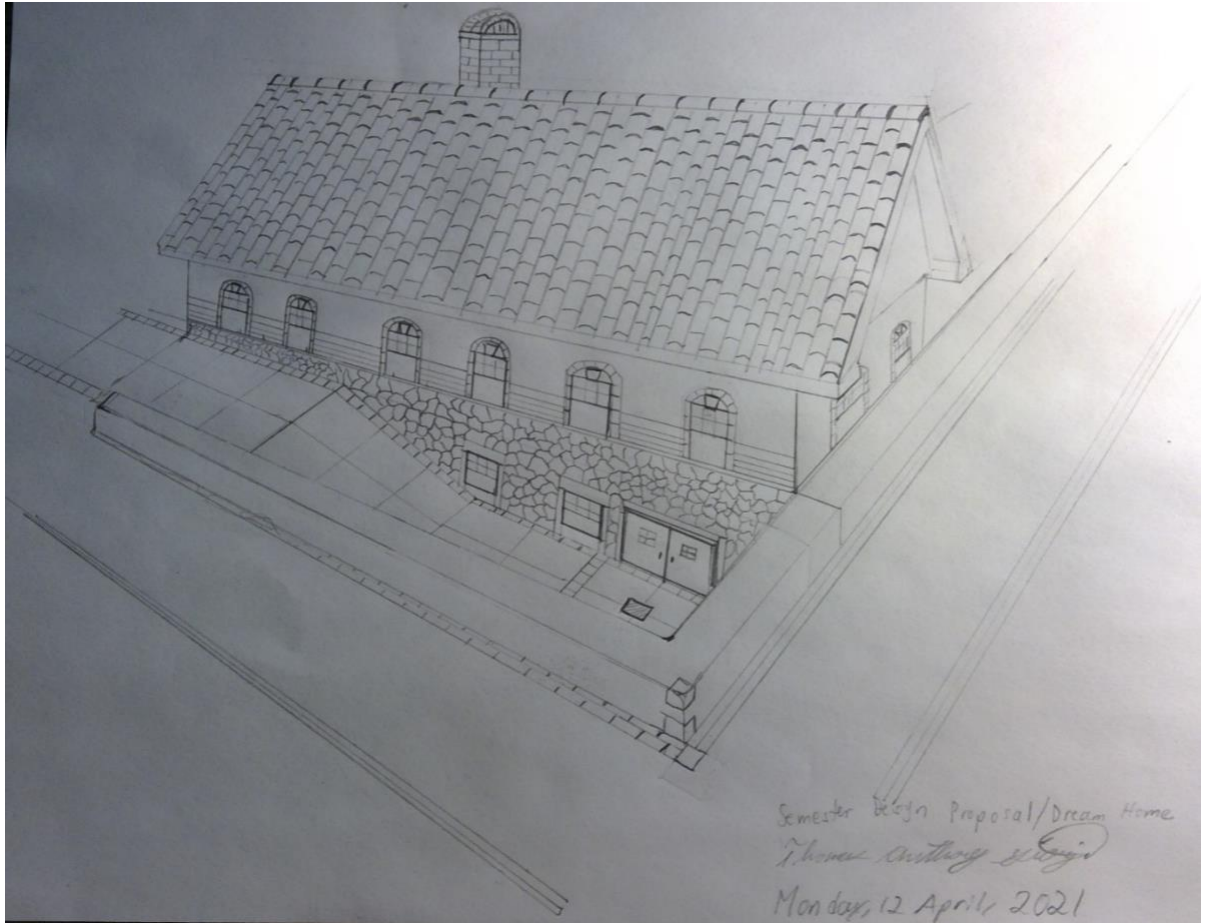
Landscape:

- Natural unpainted mulch
- Brick and stone pavers for walkways and narrow walking/driving/access paths
- Concrete driveway (heated with resistive wires to melt snow/ice around the house in the winter)

- Small Japanese Maple Trees up front close to the house
- Boxwood shrubs as bushes all around the South, East, and North face of the house as well as lining the path on the East face
- Arbor Vitae bushes along other paths
- Two large Red Oak Trees further away from the front of the house as well as lining the South driveway
- Wooden fencing and stone walls along other paths



- These three images depict my primary early sketches that I have in mind in terms of a layout to my village and house. These are an ongoing work in progress as I see more things and think of more changes to make as I may consider different uses for spaces or something of the sort.

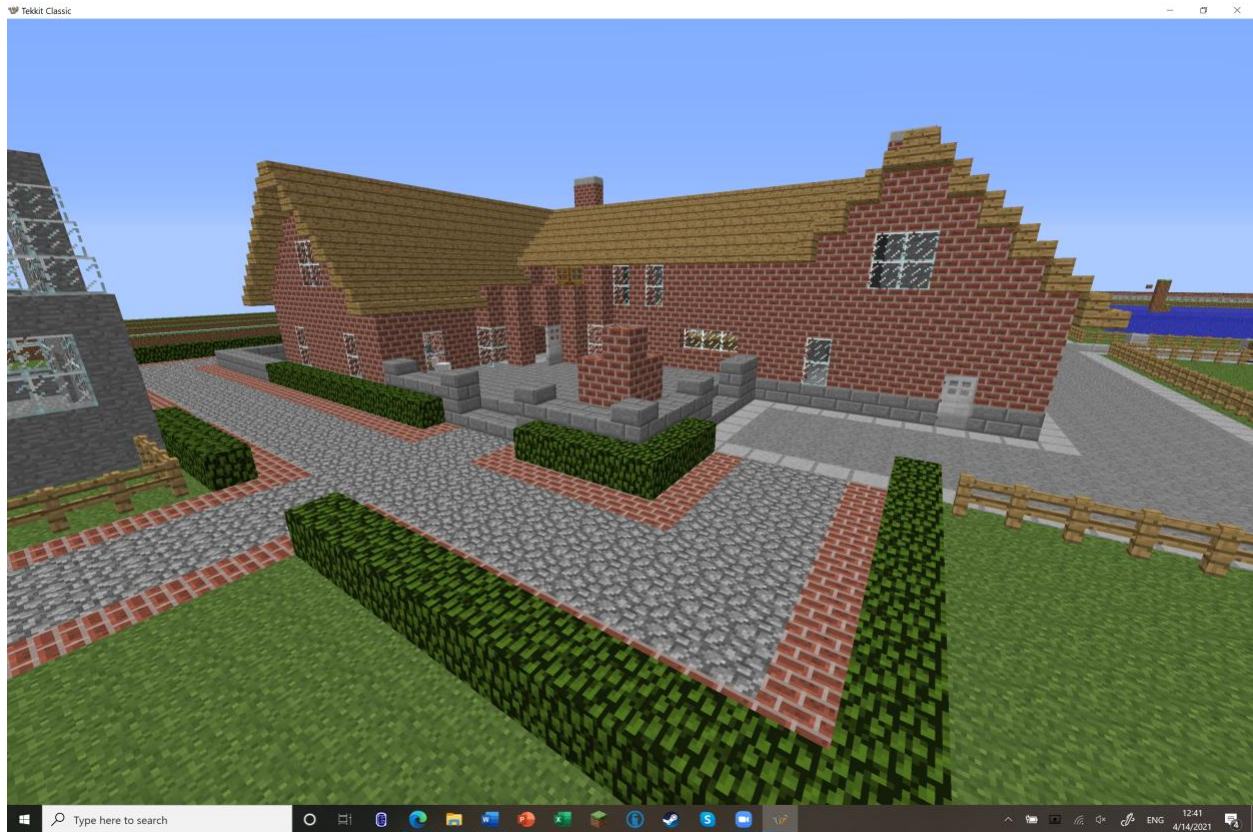


Semester Design Proposal/Dream Home
Thomas Anthony Design
Monday, 12 April, 2021



- These two images are the perspective sketch of the screenshot I took from the scale model of it I have been building in Minecraft.





- These three images are further images of the other faces of the house that are not as apparent in 2 Dimensional drawings and simple sketches.





- These three images make up this perspective sketch using the two screenshots of the front of the house looking to the North East. As you can see, the driveway makes up a sort of courtyard or piazza and the two driveways meet at the flagpole which is located at the centre of that intersection. The portion of the driveway that doubles as a walkway around the flagpole towards the front door are made of cobblestone laid out in the sampietrini wave style in Italy. All pavement is edged with larger stone or concrete blocks to accent the pavement and act as a transition material between pavement and grass, building, or mulch.