OLYMPIC BREAK

KEEP THE FLAME GOING

OLYMPIC BREATH: KEEP THE FLAME GOING

A Design Thesis Submetted to the
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By

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Table of Contents

List of Tabels and Figures

Figures

Abstract

Figure 1 Spyros Louis Stadium

Today's Olympic Complexes have been left abandoned since they started in 1896. This due to lack of planning for the life of the complex after the games. They were to believe that they could run on the occasional professional game or concert, and tours that would be held there. It has been proven that the stadiums/arenas are not designed well enough for multiple sports and concerts, and that tours do not bring in enough money. Countries will plan to demolish the complex from the start. Olympic complexes can help support the community by designing it to be a multi-use and self-sustaining complex. This way the places where dreams came true and tax dollars where put in can stay around for decades and not just a few years.

Theoretical Aspect

Figure 2 Trip to Barcalona, Spain

My thesis started out with just want to make arenas and stadiums better as an overall experience inside for the event but as I looked deeper into the topic and traveled around Europe I found what exactly I wanted to do, revive an abandoned Olympic complex. When I was traveling for a weekend in Barcelona, Spain during my term aboard in the Spring of 2020, we came across the cities Olympic Stadium and Outdoor Aquatic Center. Barcelona's Facilities were well managed for the most part but looked so lonely. This sparked me to look into more Olympic complexes and I found that there is a total a five sitting abandoned and that doesn't include the complexes that were torn down like in Atlanta, Georgia, and Seoul, South Korea. It amazed me how cities are building these massive complexes that include multiple facilities including stadiums that will stand empty except for tours and an occasional sporting event or concert. This method will barely cover the bill to maintaining the facilities for not at all, this is what leads to the abandonment of the venue where the greats show their talents. This is what made me go further into my passion for just wanting to enhance the experience at stadiums and areas.

The passion I have for stadiums and arenas started with my own experiences with sports and concerts. First, it was sports as I played basketball competitively for ten years and dreamed as a kid of the day I would play in an arena! Then came music; I grew up as a choir director's kid, so music was also playing in my house and grew to be a love of mine as well. My first professional game and concert will last in my memories for a lifetime. The way you escape into another world while inside the facility leaves me speechless. Each event's environment is captivating, crowds screaming, stomping, clapping, and singing ringing throughout the space, and do not forget the light show. Whether it is sports or concerts, the light shower can make or break the entire show. Lights and acoustics in these large entertainment spaces are essential and can vary from event to event being hosted. Have you ever been to a game or a concert and you cannot even hear the announcer or artist, or the opposite, they are so loud it echoing, and you cannot hear the person next to you yell to try having a conversation with? This situation happens when the facility has been balancing for one event in particular and not the rest or did not put in enough care with the acoustics—leaving people extremely dissatisfied with what they went there for a great time. Creating a sound system that can adjust to the event and artist would help create an exceptional guest atmosphere.

Later in life, when one gets to the age where they can go to professional games or concerts by themselves with friends or significant others, it is the time when one starts to realize the unsafe

environment around stadiums and arenas. When the event isover, and people have to travel back to their cars and public transportation sports, it is usually dark, and minimal security to help manage the crowds. And those areas, especially the parking, are dimly lit, making it seem even more unsafe. With today's uncertainty of safety for women, child and even men when it comes to sex trafficking and violence in these areas, improvements can be made at a considerable rate to make it safer for you anyone of all ages to go to events, stadiums, or arenas. When no events are happening, the complex seems like a ghost town due to not having food or entertainment. Having a lack of entertainment around the facility also means losing revenue for the owners as many own that land. Keeping guests on the property longer with stuff to do or just want to come for the food or shopping can help immensely with profits and safety! People who have gone to events in arenas/stadiums walk half a mile back to the parking ramp while looking for the closest restaurant, which is always a thirty-minute drive because of the lack of entertainment.

I plan to study moving parts of a building and how they can be attached to the ceiling to be used for the sound supporting system. With the moving sound plates, the facility can easily adjust to whatever the event is. It could be a rock, pop or even a classical concert to a volleyball or basketball game. This technology will enhance the listening experience when it adjusts and eliminates dead spots and echoing while resinating close to perfect sound. It will need a tracking system that moves smoothly not to disrupt guests if an adjustment needs to happen. It also needs to be strong enough to add and take away the sound plates; this will most likely be done by reinforcing cables with an outdoor stadium. The wires will stretch the length and the stadium and from one roof system to the other. And a bonus of the plates being able to move is that fireworks will still be shot off from the stadium and stage because the plates can be transferred out of the way.

These venues create unique atmospheres inside and during their events, but what happens when they are over? What is left is a massive fortress abandoned until its next use, leaving the area surrounding it just as barren as the venue is inside-these event centers to the extreme with Olympic Complexes over and over again. These complexes are designed beautifully and used for the few weeks of the Olympics (summer or winter), tours, concerts, or world cups a few years after and then left to waste. They did not plan appropriately for the future. If Olympic Complexes with the main stadium have plans with proper multi-use facilities and autonomous programs, they can be inhabited for generations to come. They have the land to create a multi-use complex for people to enjoy and have

unique experiences. Sustainability can also be more of a factor in cutting down material and energy waste. Some have use Stadiums that already exist, like the Sports Complex in Athens, Greece, for the 2004 Olympics, but it was abandoned due to lack of planning. They thought they could just rely on tourism, but when with economic crisis hit in 2009, it shut down and never opened back up. So with the right planning for what the community needs for after the games are done, Olympic Complexes can be successful; they need more thought behind each indivual place they are being held and design in.

Lastly, because I have chosen the Athens, Greece Olympic Sports Complex for my thesis, I will need to study what is essential to the Greek people anAthens'se people. What is the heart of their culture and social contexts. What makes them happy, sad, and mad? What are their weekday and weekend habits, and their views on fun, relaxation, and work? This will all help create an urban plan for the complex that will benefiAthens'se the community, which will lead to a more prosperous future. Lastly, because I have chosen the Athens, Greece Olympic Sports Complex for my thesis, I will need to study what is essential to the Greek people and Athens's people. What are the hearts of their culture and social contexts? What makes them happy, sad, and mad? What are their weekday and weekend habits, and their views on fun, relaxation, and work? This will all help create an urban plan for the complex that will benefit Athens's community, which will lead to a more prosperous future. A community is the heart of a project and what can make it successful or not. If you don't consider the community and it inhabits, what's the point of the project?

The Site

Kifisias 37, Athina 151 23, Greece or Marousi, Northeast Athens, Greece

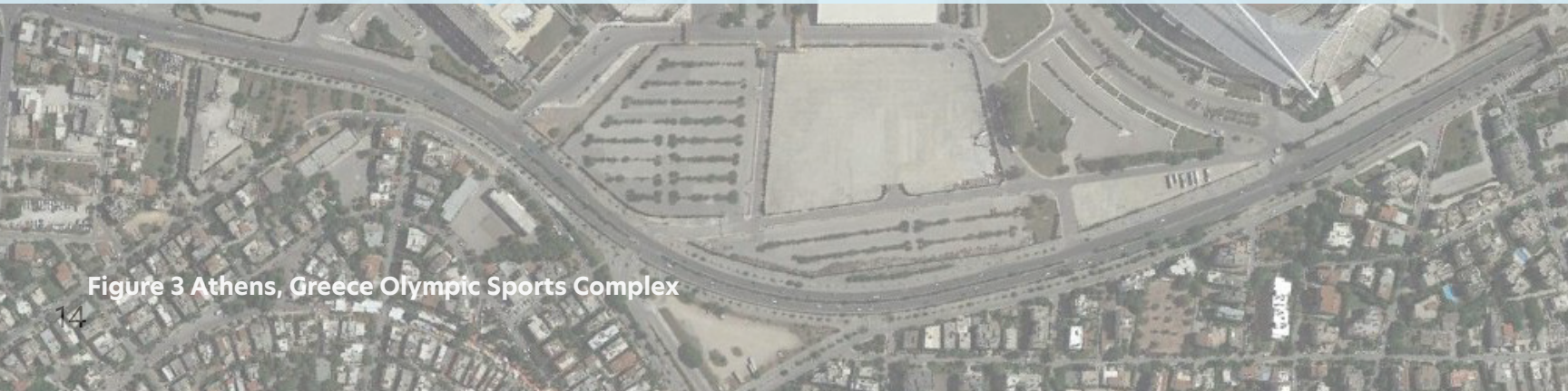


Figure 3 Athens, Greece Olympic Sports Complex

w h y ?

We have all done it. We click the remote, and the screen flicks on with the picture of the massive stadium with rainbow colors with all the athletes lined up, ready to begin the games, and the torch is lit. We cheer on our countries or favorite athletes in the events throughout the two weeks and press the power button once more like the larger than life athletes say goodbye to their careers or until the next Olympics in four years. What happens when the athletes, spectators, commentators, and viewers at home are no longer there or watching? More than five Olympic stadiums have been deemed abandoned after the Olympic Games they hosted to be barely touched again to the point of demolition.

I chose to do the 2004 Athens Olympics because it is recent enough that the site will still be usable, and I am a professor from Greece that is advising me to answer any questions I have. The complex I went with is the leading sports campus that houses the Main Main Stadium, Olympic Athletic Center of Athens (O.A.K.A.), or Spyros Louis Stadium was its name before it was renovated for the Olympics. The main stadium had the most money spent on it and is used the least on this campus.

The next reason is the potential the site has to benefit the community if it was renovated from the ground to the facilities. The site looks like a wasteland; there should have been grass or some vegetation; there is gravel. The fountains have not been filled, and the facilities do not have a matching aesthetic. The citizens of Athens do not have the best impression because it cost billions of dollars with the promise of updating the congested traffic system and airport, but neither of those happened, and then the campus was closed. The only real plan for the facilities after the Olympics to bring in a profit was to charge for the facilities' tours. Nevertheless, when tourism went down, and Greece had their crisis in 2009, the tours were shut down, and the facilities were not taken care of.

I want to turn the concrete pad into a green, fun getaway in the city for the locals and visitors to enjoy. The citizen deserves it, and so does the site.

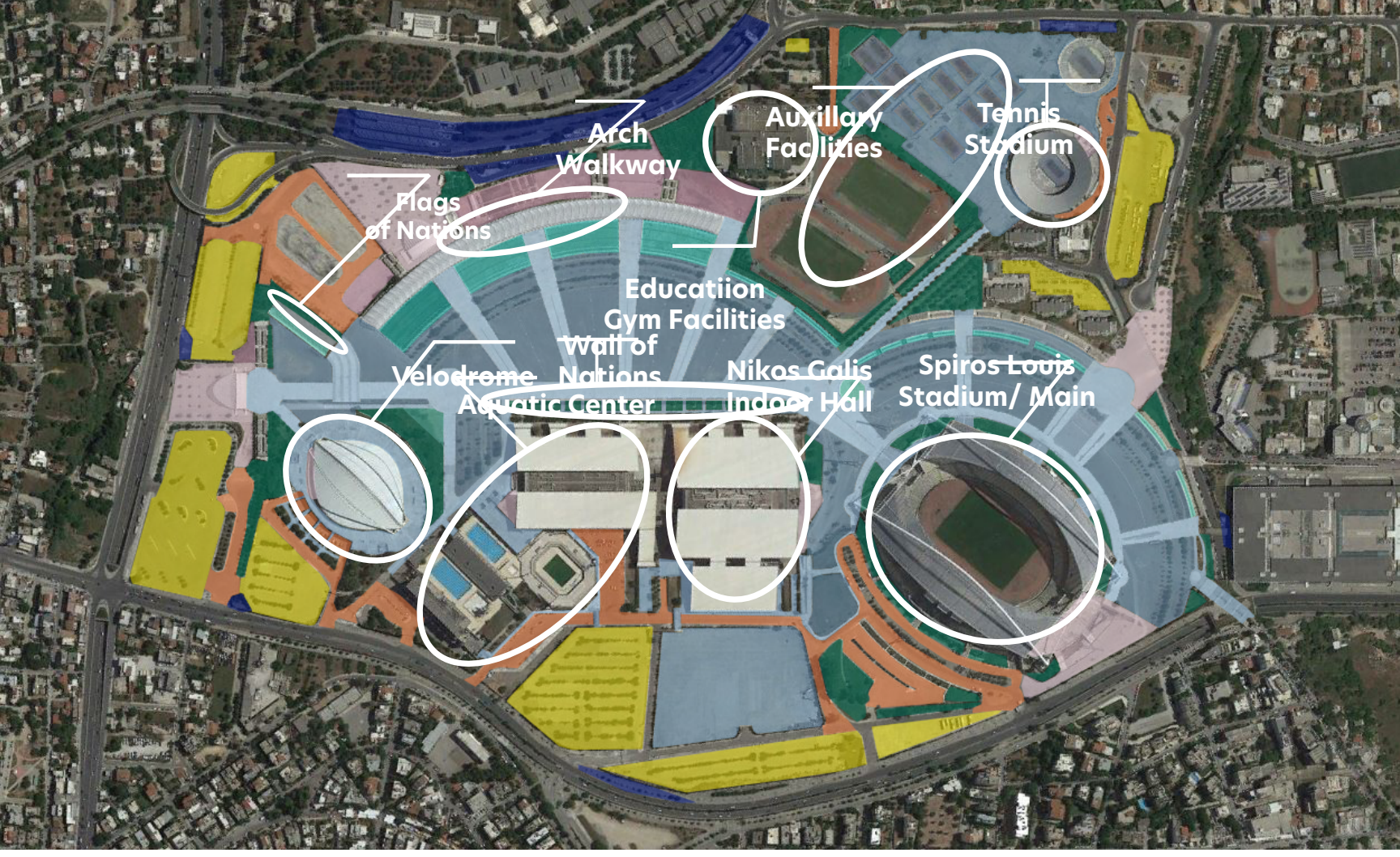


Figure 4 Site Function

Parking
Vehicle Path/Drop Off
Waiting Area
Pedestrian Path
Empty Space
Entrance
Green Space
Fountains/Ponds
Public Transportation

Site Function

C l i m a t e

The climate is pretty mild in Greece year-round. Average temperatures range between 27 degrees Celsius to 10 degrees Celsius, and precipitation's range is 63 millimeters to 6 millimeters. Wind speed doesn't reach above 7 meters per second on average. The people of Athens and the visitors will usually have pleasant days throughout the year.

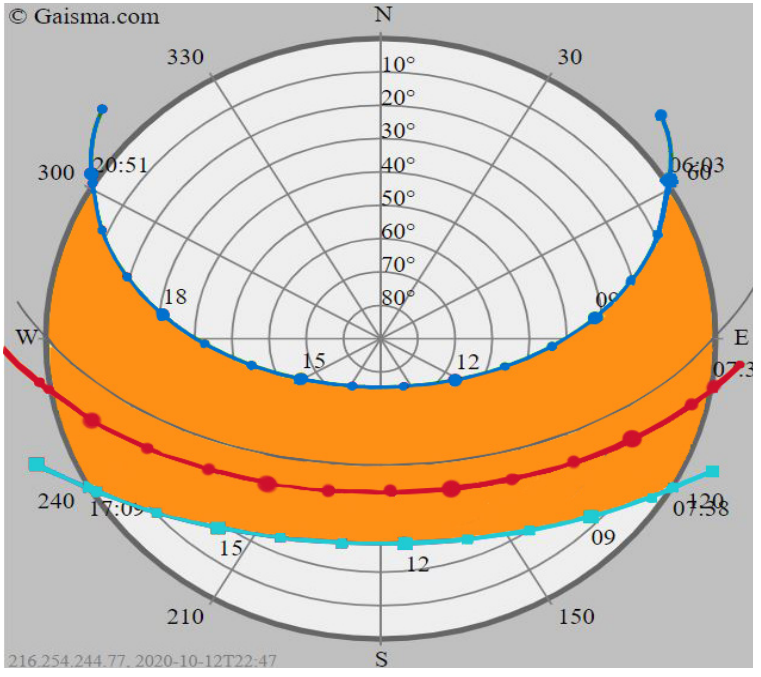
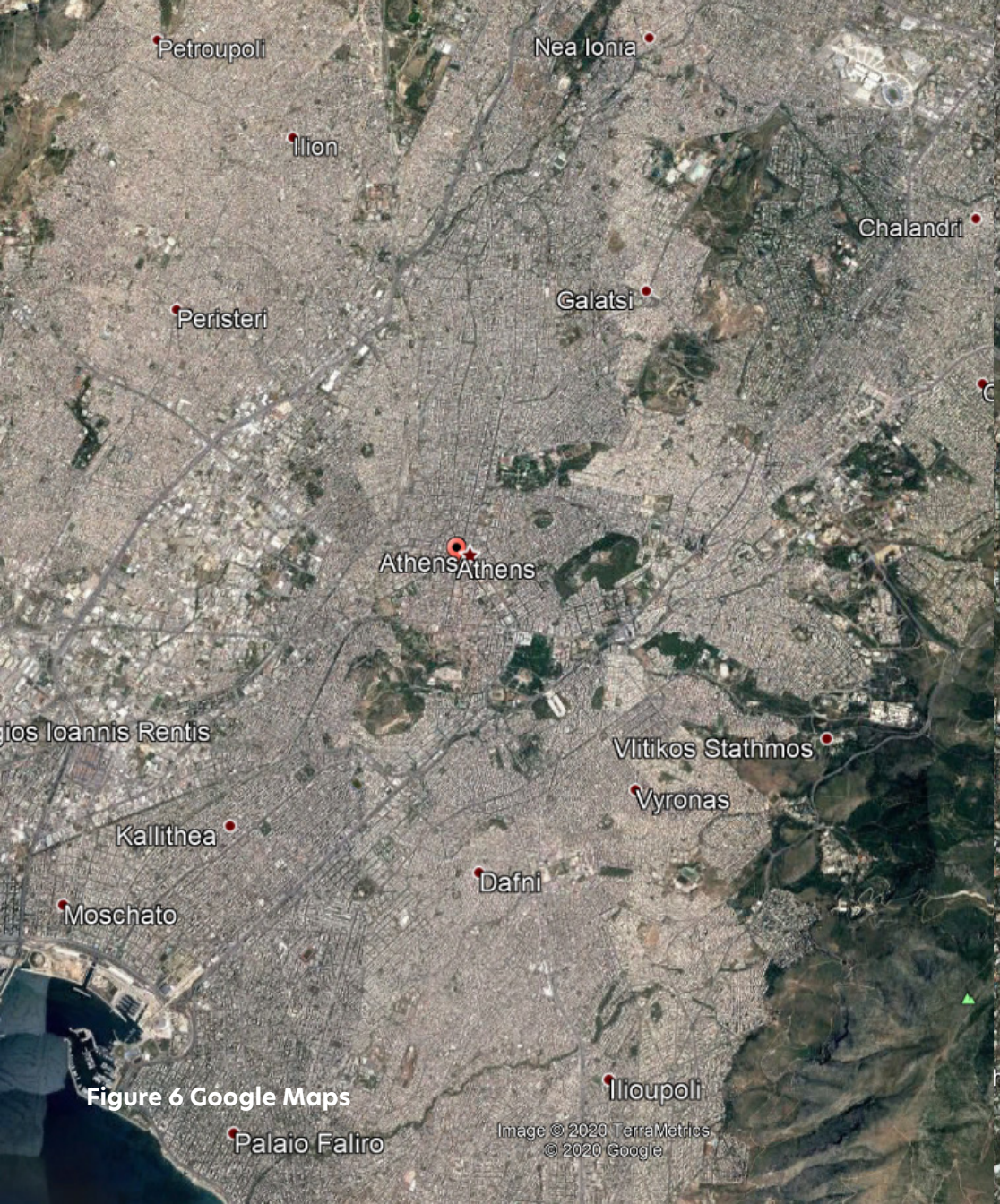


Figure 5 Sun Chart

Tabel 1 Climate Variables

Variable	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Insolation, kWh/m²/day	1.83	2.56	3.68	5.36	6.78	7.91	7.83	6.98	5.35	3.32	2.06	1.57
Clearness, 0 - 1	0.41	0.43	0.47	0.55	0.62	0.69	0.70	0.68	0.63	0.50	0.42	0.38
Temperature, °C	10.30	10.14	12.11	15.99	20.66	24.93	26.82	26.67	23.88	19.68	14.98	11.48
Wind speed, m/s	7.16	7.47	6.34	5.48	4.96	4.66	6.02	6.10	5.42	6.01	6.47	7.02
Precipitation, mm	63	54	50	31	23	12	6	6	13	55	64	80
Wet days, d	8.5	9.2	8.2	7.6	5.1	2.1	1.4	1.7	1.7	5.8	8.7	9.8



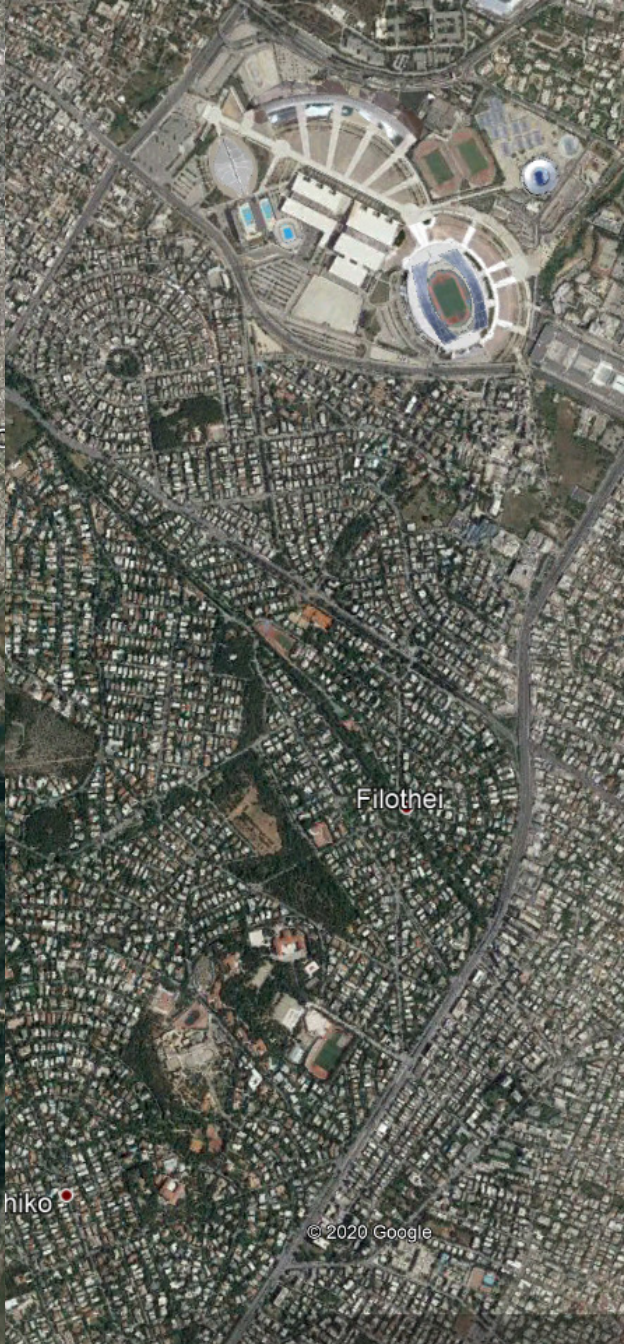


Figure 6 Google Maps

Topographic Map

The site is level ranging from 169 to 159 meters with one area within the 213 meters area but human-made—the site slant to the south for drainage. Which also goes with the terrain's natural slope.

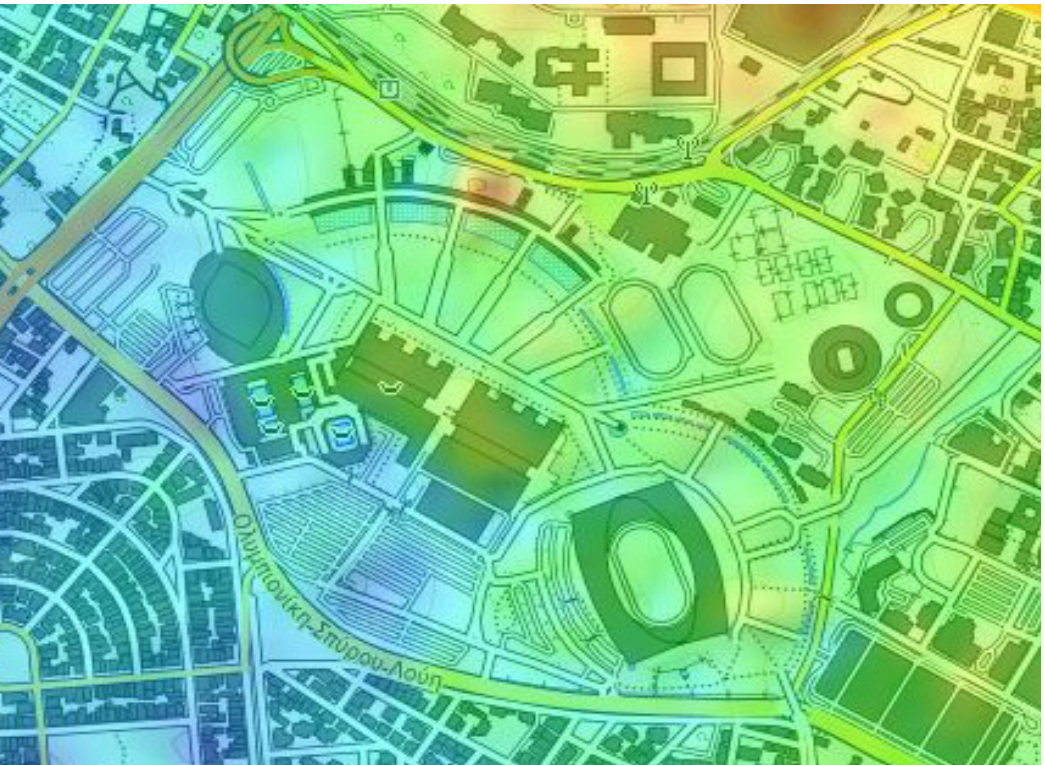


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Figure 7 and 8 Topographic Map of Athens, Greace and the Olympic Sports Complex
Tabel 3 Scale (Meter)

Project Typology

My thesis will be an urban design project to revive and reconstruct some of the Olympic complex parts, focusing on the main stadium, Spiros Louis Stadium. The OAKA is the Olympic Sports Complex at Marousi, northeast Athens, Greece. The complex holds multiple stadiums and arenas and has been lying in abandonment since the 2009 economic crisis. Future typology is a revived Mixed-use Entertainment Complex. A small example of this can be the LA Live Center.

Figure 9 Opening Ceremony

OAKA Olympic complex at Marousi, northeast Athens, Greece. The complex has been abandoned since the 2004 Olympics. It was supposed to remain open for tours and events but Greece fell into a decade ression and it had to close down. Madonna and Bon Jovi even held concerts in the stadium before it was shut down. Now it lies to waste, The grounds are still open for guests to walk the ground but there isn't much to see. You can still walk , run, and bike on the site but there isn't much to see. The original favorite plan was followed to the bare minimum which led to some of its poor layout and aesthetics. This will be discussed more in the site on page ()

Sadly these comlexes all of the world are left to fed for themselve just like this one or schedlued to be demolished following the games.

Complex Facilites

-Spiros Louis Stadium

-Nikos Galis Olympic Indoor Hall

-Athens Olympic Tennis Centre

-Athens Olympic Velodrome

-Athens Olympic Aquatic Centre

Tabel 2

Spyros Louis Stadium

Spyros Louis Stadium, used for opening and closing ceremonies and football, and track and field, is now in retirement. The record attendance 74,473 during the ceremonies, lowest is 56,700 during track and field because the events needed more space. Since the opening of the original stadium opening in1982, it has only held less than twenty concerts to this day. It was also used as the home ground by the three big football clubs of Athens, Olympiacos, Panathinaikos, and AEK Athens. The stadium even hosted significant events like the 2007 UEFA Champions League Final on May twenty-third and Amnesty International's Human Rights Now! Benefit Concert on October third, 1988. The stadium has not been kept up to date and is slowly wasting away because it is too expensive to upkeep.

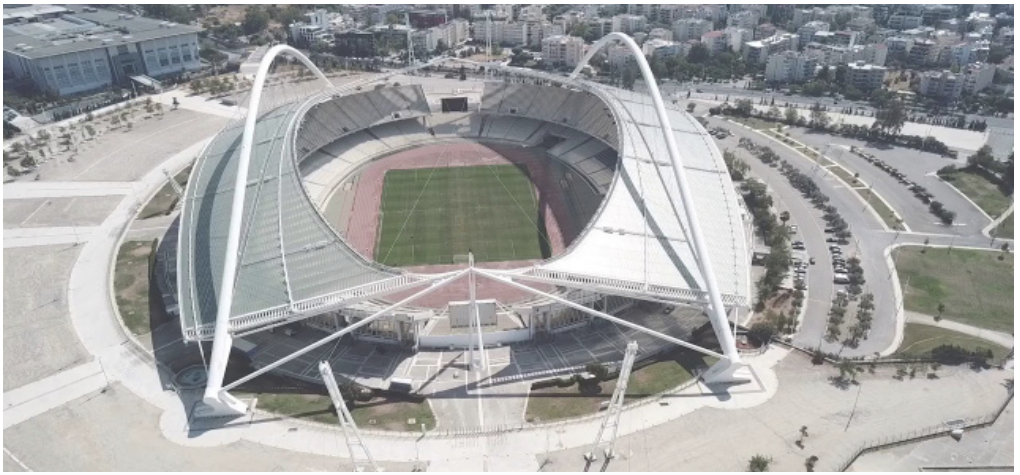
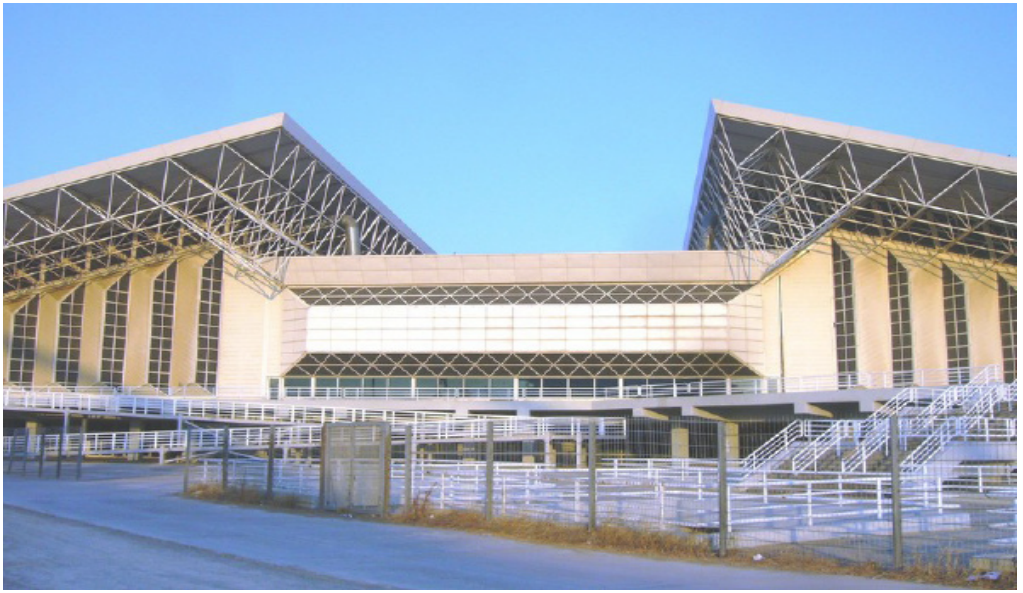


Figure 10-11 Spyros Louis Stadium

Nikos Galis Olympic Indoor Hall



Nikos Galis Olympic Indoor Hall held basketball finals and gymnastics. The arena's capacity is 19,250 persons. At times, the area is named the home for the Greek Basket League professional basketball club Panathinaikos, including the Maroussi for European-wide league matches. They held the finals for the league in 2018 at the Nikos Galis Indoor Hall. It has even hosted the Special Olympic Games for most of the years. Music competitions such as the 51st Eurovision Song Contest in 2006 after Athens won the song contest in 2005. Minimal concerts have also been held here as well.

Figure 12-13 Nikos Galis Olympic Indoor Hal

Athens Olympic Tennis Centre

Athens Olympic Tennis Centre held all of the courts for the Olympics. Each of the courts uses the DecoTurf cushioned acrylic surface, and the U.S. Open Grand Slam event uses the same material. The largest stadium that held the final is enormous by the tennis competitions' standards with a capacity of 15,000 persons, with the seats being relatively far from the tennis court. The Greek Basket League club, AEK Athens, announced in 2017 that they have plans to acquire the Main Court facility and transform it into the indoor home court with 10,000 seats to no longer have to share with the other league.

Figure 14 Athens Olympic Tennis Centre

Athens Olympic Velodrome

The Olympic Velodrome was initially built in 1991 for the Mediterranean Games. It was extensively refurbished to host the track cycling events at the 2004 Athens Summer Olympics. The stadium can have up to 5,250 seats, but only 3,300 were available for the Olympic Games. Twin roofs cover each side of the stadium's seats, giving it its whimsical look and coverage for the Afzelia wood track. Now fitness conferences will be held in the middle ground of the track.

Figure 15 Athens Olympic Velodrome

Athens Olympic Aquatic Centre

Athens Olympic Aquatic Centre held diving, swimming, synchronized swimming, and water polo and with all three pools the capacity is at 23,000. Though the diving pool may not be used any more, some local businesses have taken some space here for yoga, polo, and other health hobbies. The indoor complex has partially been converted into a rock wall climbing facility.

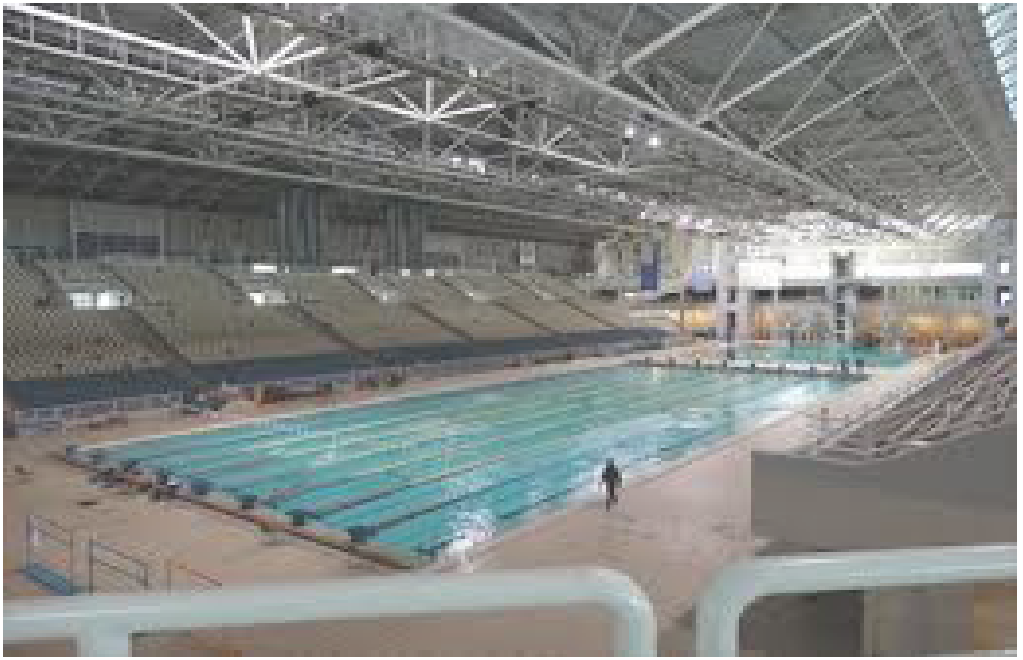


Figure 16 Athens Olympic Aquatic Centre

Case Studies

Beijing National Stadium,
'The Bird's Nest'

L.A. Live

Atlanta, Georgia
1996 Olympics

Figure 17 The Bird's Nest Durring the Summer Olympics.

Beijing National Stadium

'The Bird's Nest'

Concept and Funding

The shape was supposed to represent heaven and the unique pottery for their culture in Beijing but is often called a bird's nest. The involved cost £300 million or $230 million today. China International Trust and Investment Corporation (CITIC) raised forty-two percent of the funds. The rest was fundraised by Beijing State-owned Assets Management Co Ltd or the Beijing Municipal Government. It was initially used for the 2008 Olympic games and will be used again for the 2022 winter games. The National Stadium will be the first Olympic stadium used for both summer and winter games. A lot of planning had to go into this from day one.

The architects had to follow three committees for the stadium to be in regulation in 2008-the committees where the International Olympics Committee, International Amateur Athletics Federation, and National Stadium Company. They ensured that the track, higher jump, and future use of the stadium were all on the right path and done right.

Location: 1 National Stadium S Rd, (Beijing) Chaoyang, China

Architect: Ltd (BUCG) and China Architecture Design & Research Group

Engineer: Ove Arup & Partners and Beijing Urban Construction Group Co

Contractor: Beijing Mechanical Construction Company and CITIC Internationals Contracting Inc

Start and Completion: 2003-2008

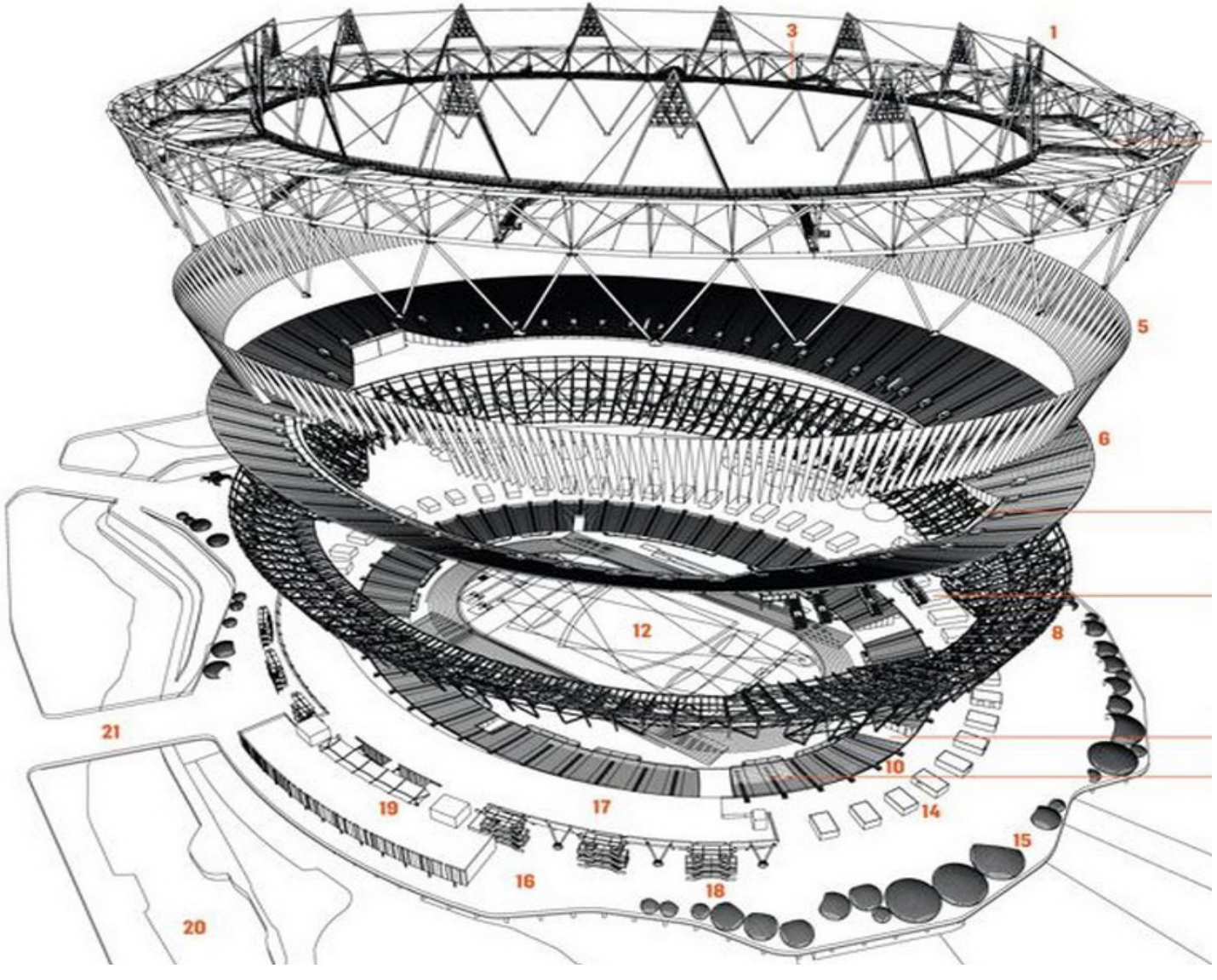
Figure 18 The Bird's Nest now.

Structure and Design

Going into the Bird's Nest design, a lot of it seems random, but it all has a purpose. First, the 8,000m squared football field allows enough space for a geothermal heat pump (GHP) system. In this complex, the GHP system has been precalibrated to heat and cool with crowds, with the rood open or closed, and what season it is.

The National Stadium Committee is why there are businesses under neither the stadium. Examples like a furniture shop, yoga studio, cinemas, and restaurants. With the places under the stadium, it still leaves the area around the stadium barren. They are making it unwelcoming to the eye and a safety hazard.

Figure 19 The Bird's Nest Structure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It was designed from inside out just like every other stadium. The bowl is using precast concrete to minimize structure. The terrace is also using precast with the L-shape units. The columns that support the stadium add to the randomness, but they go along with the steel cage pattern and support the retractable roof.

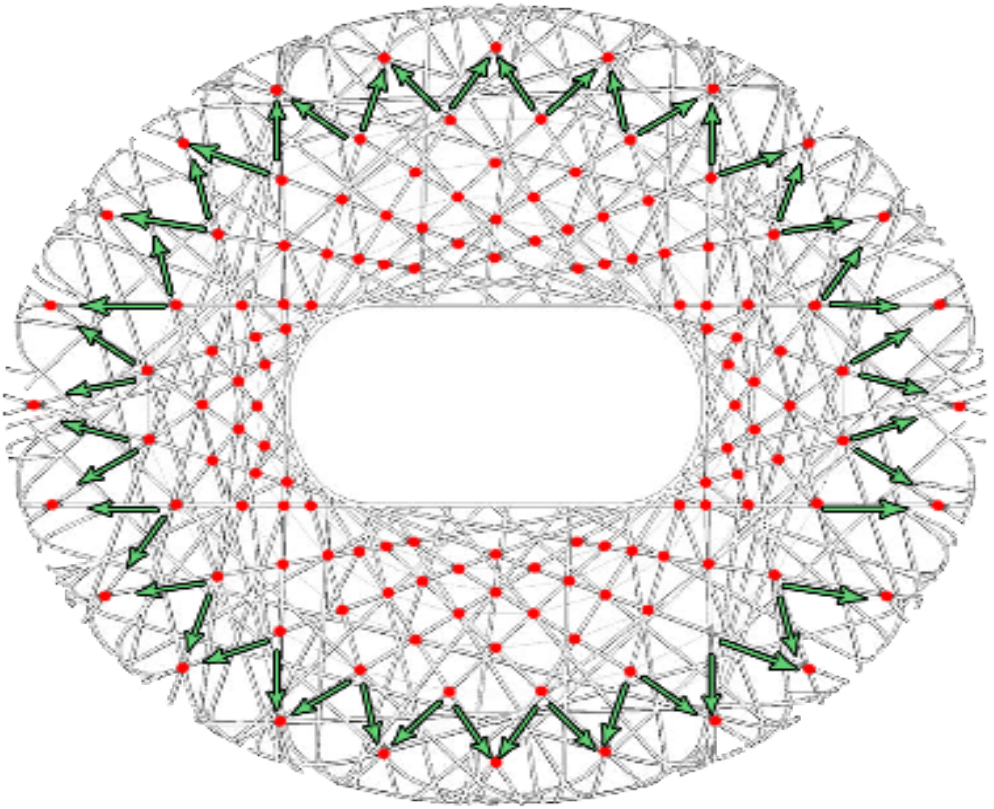

Figure 20-21 The Bird's Nest Structure

The stadium seating capacity is 91,000 for a football game. With 80,000 seats fixed, the other 11,000 are flexible seating but can still happen comfortably. This arrangement doesn't include ground seating for concerts, which would up the capacity by an enormous amount.

P r e s e n t

The most significant revenue now for the stadium is the daily tours. Admissions are eight dollars a person, and they see 20,000 to 30,000 visitors a day. They are making a minimum of 160,000 dollars a day. Concerts are also a significant income. Large entertainment complexes like this one are not hard to find in China. And are designed for shows as the music and entertainment industry is a big part of the economy there. And with 91,000 plus seats to be sold out there is a massive income to be made.

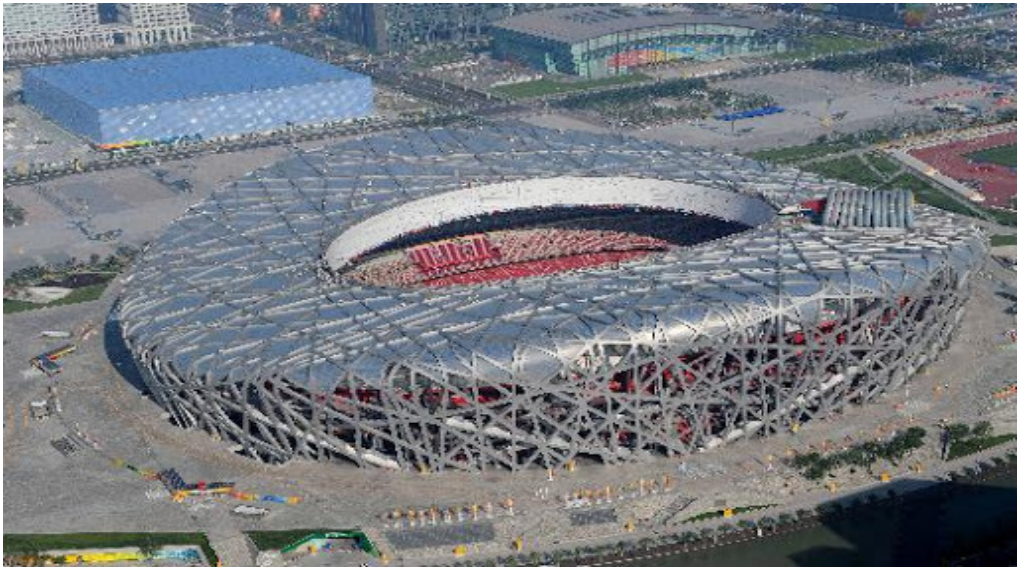

Figure 22 The Bird's Nest now.

L.A. Live

Figure 23 L.A. Live

Why was the Project Needed?

Los Angeles finished the Staple Center in 2000, and they were excited to continue its downtown revival project. The staple Center houses all three NBA time from Los Angeles, and it needed an area to support all three teams. Downtown was dying due to its large blocks and planning. The large blocks are for the yards and house, but that was decided decades ago and make it very difficult to get around on foot today/ That is when L.A. Live was born.

L.A. Live was a three-part project that started in 2005 and ended in 20010. The phases include retail, restaurants, offices, a museum and entertainment space, a 720-seat theater, a 1,000-room condominium hotel, ESPN's West Coast broadcasting headquarters, and complete with a 40,000-SF public plaza.

Figure 24 and 25 before L.A. Live and block size example.

Location: Downtown Los Angeles, California

Master Planners: CallisonRTKL

Architect: Nate Cherry of CallisonRTKL

A total of 33 acres were master-planned surrounding the Staple Center and Microsoft Theatre.

P h a s e s

Phase One

The phase started in 2005 on 2.7 acres of land that the city acquired. The Microsoft Theatre, which held 7,100 seats, and the 40,00-SF XBOX Plaza finished in 2007. The plaza had six seventy-five foot LED signage towers for a lively event space for All-Star Weekend. Also, they made 1,500 parking spaces in this phase.

Phase Two

Phase two is where more of the medium to small entertainment installments came in. The is installments include The Novo (a 2,300 person venue), the Conga Room, Lucky Strike Lanes & Lounge, The GRAMMY Museum, and 2,000 more parking spaces. Restaurants opened throughout phase two, with all 13 eateries completed in 2009. The ESPN broadcasting station also held its first live broadcast in this phase.

Phase Three

The last phase installed the hotel string and cinema. The series included The Ritz-Carlton Hotel, The JW Marriott, The Ritz-Carlton Residences, and a four-teen screen Regal Cinema.

Inspiration and Layout

The concept that makes L.A. Live so compelling is the European Style layout. This style helps break out the long blocks of Los Angles that makes transit by foot challenging.

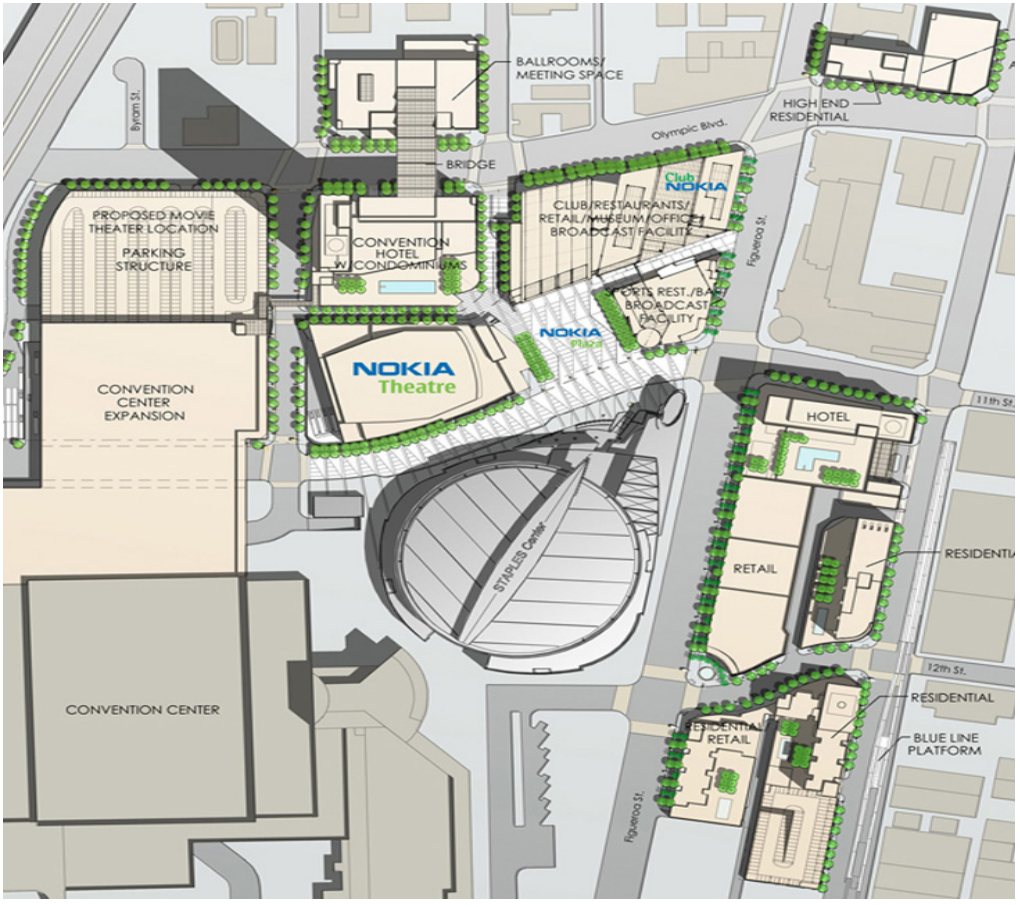

Figure 26 L.A. Live Layout

Complete and Finance Impact

The project now has a 7,100-seat live theater, a 2,300-person-capacity concert venue, a 54-story hotel and condominium complex, and a 14-screen movie house, bowling alley, and a nightclub. When no events are going on in the significant centers like the Staple Centre and Microsoft Theatre, the rest of the property continually brings in revenue. It has done well enough to surpass Disneyland in attendance. L.A. Live sees about 20.4 people a year while Disneyland sees 18.3. Anschultz Entertainment Group owns everything on the land. This project set the trend for other stadiums wanting to plan similar projects.

Figure 27 L.A. Live

Atlanta, Georgia

1996 Olympics

Figure 28 1996 Olpympic Opening Ceremony

Location: Atlanta, Georgia, USA

Architects: Heery International for new facilities.

Engineers: Rosser International for new facilities.

Cost: The entire games cost was about $1.7 billion. Centennial Olympic Stadium cost was $209 million.

.

Construction: Began in 1993 and finished in 1996.

Figure 29 1996 Main Stadium Transition

Method Behind the Mediocrity

Mediocrity was the theme when it came to the 1996 Olympics, but there was a reason. Some of it is very successful, some of it not so much. With almost two billion dollars spent on this year's games, every bit of it was done with intent; that intent was for the facilities to have a purpose after the games. Whether they used and updated an existing facility or built a new one, there was a plan behind it. A recurring theme was placing sports facilities on local college or university campuses, one of the successful strategies because they are still used to twenty-five years later. Some of the failed facilities are the facilities updated and then torn down shortly after the games for a more updated facility.

At that point, it seems like a waste of time and money that just went into those. Buildings could have slightly torn them down and built new at that point if that was the plan for after the game, And the renovated facilities not on collegiate campus and not torn down sit empty. But when they did build brand new, they did it innovatively, it may not be the best solution, but it was better than the past. They designed the Main Stadium so that it can be converted into a baseball stadium after the games.

When the city didn't have the room or resources for them to be placed in the ring for specific events, sailing and equestrian are examples. They outsourced them to other cities in the state, other states, or built temporary stages for the events. Washington D.C. took sports like sailing and equestrian, and Ducktown, Tennessee was approved for making a whitewater sporting venue. South of Atlanta, outside of Olympic Ring, a beach park and a new facility for beach volleyball, a new sport that year. When the city didn't fit the facilities' needs, they did not force them to work and make a permanent venue that wouldn't be used later. This the method was used for the 2012 Olympics in London, UK, as most of the event work was put in tents that could be taken down after the games.

Successful

Centennial Olympic Stadium
Centennial Olympic Park
Alexander Memorial Coliseum
Georgia Tech Aquatic Center
Georgia World Congress Center
Clark Atlanta Stadium
Frank L. Forbes Arena
GSU Sports Arena
Olympic Village

Failed

Georgia Dome
Omni Coliseum
Herndon Stadium

New Building
Renovated Building

Figure 30 Centennial Olympic Park

Funding

The Main Stadium's bill of $209 million was split up in three ways because of the conversion plan to a baseball stadium after the games for the Atlanta Braves. Private funders like NBC and other Olympic sponsors paid around $170 million of the total. The rest of the build cost was left to Atlanta's city; the Atlanta Committee of the Olympic Games (ACOG) covered the conversion costs.

Centennial Olympic Stadium Concept

The concept behind this facility was to be interchangeable to put merely. There isn't a need for permanent track and field stadiums as it's been proved again and again as Olympic stadiums are left behind. Atlanta's market was a new baseball stadium, so they built it adjacent to the existing baseball stadium that would be torn down after the games and used for a parking lot with the outfield fence remains. It was used until 2017 with the name of Turner Field by the Atlanta Braves when they let their lease expire and move to their new stadium. Then Georgia State University transformed it yet again to a football facility now called Center Parc. Stadium. It didn't long for the Braves to start looking for another place to call their home when the seating that remains for the original stadium didn't meet the guest's standards. They were too far back for a viewing and wanted to add to capacity; the efforts of four seating levels were not enough. The same firm of the original design and conversion also did the second one, Heer International.

The land and initial planning have allowed for the multiple. facility changes. Something that has lasted with the stadium is the Centennial Park. It was used as a gathering ground for the Olympics and now holds events. They do this by upkeeping the environment, including the fountains, having a balanced green area, and having other entertainment come in or surrounding the area.

Georgia Dome Birth to Death

The dome was complete in 1992 for the Atlanta Falcons, and right off the bat, the roof was facing weather issues. A year before the Olympics, the roofed collapsed because of a water collection. Then tear happened again during the Men's SEC Basketball 2008 quarterfinals by a tornado. It was causing the games to be delayed and moved to a different facility. By 2010 the dome was not meeting the football needs of being in control of the stadium because the city owns it, its team aesthetics, and the players wanted to play outside with the southern weather. Architecture firm Heery was responsible for both stadium conversions. The Mercedes-Benz Stadium was approved by the city in 2013 and was built adjacent to the Georgia Dome. Even a petition for the dome to be saved from demolition was made, but it wasn't economically possible to finance two stadiums at that time. The dome was brought down in 12 seconds in 2017 once the Mercedes-Benz Stadium was given the okay to open.

Figure 31 Georgia Dome

Case Studies Review

Beijing National Stadium, 'The Bird's Nest'

Between all three of these case studies, I have a better understanding of what will work and what won't work. When designing these Olympic facilities and complexes, longevity must be the focus. W When you ask the following questions and the best solution following the answer you give.

Do you have a facility already?
Does it need updates?

Will a brand new facility be cheaper in the grand scheme of things because of cost and the life span of the existing facility is coming to an end?

What is the use for the facility after the Olympic Games?

How long will it be in use?

Don't have a Facility already?

L.A. Live

If a new facility is created for permanent use, what will be used after the games, and how long will it be used?

Can a temporary facility be used, like a course that can be put up and torn down and covered with a tent?

Who will own the facility after the games?
The city?
Private, like team owners or sponsors?
Both?
Do you have space for new facilities?

What functions around new or existing facilities
Could those areas be updated instead?

What do people want?

Atlanta, Georgia 1996 Olympics

When answering the questions above, the best solution can be made for the project. Starting here is a vague point, but it's the most crucial. If you don't have a basic outline of what you have and what you need, projects to go stray and fail. Like the Georgia Dome, the planners didn't check with the team using the facility to meet its needs. And soon after the games, they looked for different options even though updates were made to it, not the right ones. But when it came to other facilities and placement of them, they were successful. Many have homes and are still in use today on collegiate campuses. Only one facility updated on a college campus has been abandoned because it cut its football team; the rest is used today.

There are places like the Bird's Nest in Beijing that made a stadium into a multi-use facility by putting stores, food, and other entertainment below it. But it still left the area around it bare and unwelcoming for people. This is a common theme around all stadiums; they look like concrete fortresses. A solution to this is what Los Angelos did with their downtown area surrounding the Staples Center. They created their little world that connected downtown L.A. to the rest of it and gave a significant profit boost to the staples center owner because they own the land it was built on.

Using all three case studies' pros and cons, I can develop the best urban plan and plan for individual facilities. By asking the right questions, I can get the basic needs, wants, and limitations of what I am working with and move on to a more in-depth design for each part—making the Athens Olympic Sports Complex a great place to strive for generations to come.

Major Project Elements

The Site Existing Facilities User and Client

The Site Focus

Courtyard and Open Space

The open area that surrounds the facilities on the campus is in shambles. The green places are dying or overgrown, and there is minimal green space on the campus. The trees will be cleaned up, and grass and other vegetation will be added to soften the hardscape. Adding more green spaces cooling in the summer on the complex will be more comfortable, and it will also help with sound absorption for events happening in the stadiums and new mixed-use additions. Next, the fountain and ponds will need work. They haven't been filled and working since 2009, making the barren site extra empty. Maybe splash pads will be added or kids to play in and for extra cooling in the summer. A small stage will also be added to the outdoor complex for starting local artists and show to perform and a more regular basis for the community. The flagpoles of Nations will also be filled as the complex will still have a touring aspect and will need to have its Olympic aesthetic. There will be a park area for families to enjoy, along with the revival of the drive-in theater. Cafes, restaurants, and small retail stores will be placed throughout the region for enjoyment close to the green spaces.

Mixed-Use Commercial Space

Replacing some tennis courts and an auxiliary field, parking lots, open space, and lining the courtyard and stadium. These areas will have there each designated area. The select categories will be an eatery, retail, retail and commercial, and hospitality to make up the project's mixed-use portion. Meals, shopping, family, and entertainment are the center of a Greeks life, which this plan will give to Athens's people. All parking will be placed underground, so it doesn't take away from the site. Keeping cars out of human sight is a challenge that Europe is trying to accomplish with multiple vehicles on the streets and parking lots being small.

Hotels

Two hotels will take over where parking is while still facilitating parking for the site. One hotel will be with the eatery and retail section of the mixed-use, and the other will be by the Spiros Louis Stadium. The two will be split in price ranges, one being high end and the additional option is affordable. This will bring people to stay for shows, tourism, and shopping. At the same time, they have food and other entertainment close by for the guest to use.

Self-Sustainability

The complex will bring in funds by the new mixed-use facilities, but costs will still need to be cut or the ample facilities to help it be successful. If the complex can create some, if not most of its energy, recycle water, and collect water, then it will help save money in the long run. Solar panels on top of buildings and doubling as shading devices will collect solar energy, and draining systems will collect water for toilets and the fountains. Being green is a significant priority in the European Union and will also focus on this project.

The Existing Facilities Focus

Spiros Louis Stadium

This stadium is the biggest venue on the site, and it needs the most work. The seating area far back, making views poor quality for all guests. Flattening levels and making them have a bigger surface allows for adjustable seating. Adjustable stadium seating and platforms will give the facility the means to accommodate different events and stages. The sound supporting system will be attached for better sound quality in and out of the stadium. The stadium is easy to walk into at ground level, so having it open for the public at a specific time for health or community events. The track will be left or altered to be smaller with added simple gym equipment that can be move because the community can use it. A big goal will be for the stadium to have a net-zero energy consumption helping the entire campus.

Nikos Galis Olympic Indoor Hall

Like the Spiros Louis Stadium, the seating levels will be flattened and adjustable seating used for more events. And the sound supporting system will also be attached to the roof to improve sound quality. The hard facade will need a makeover as it doesn't fit the rest of the campus, and the roof is rusting and will need to be replaced.

Aquatic Centre

The outdoor pools look like they are in rough shape, but they will be kept if they are salvageable. If they can place a hotel, the outdoor pools will be converted for hotel use. If the hotel placement is not possible, then a public/private option will be available for those who want to use it for public swimming and training. The indoor pool has already been converted for other services and swimming, so the outside will get a facelift along with Nikos Gilas Indoor Hall to match the whimsical campus context.

Velodrome

Necessary upkeep will be done, and research will be done to see how much the cycling ramp is used. If it is not in use enough from an economic standpoint, this will be the one arena to change completely. If the track is not being used, it will be taken out, and adjustable seats will be added. Adding to the capacity and giving more room for the conferences that already like to have their events there. Again the sound supporting system will be inserted in the facility to prepare it for more entertainment events.

Tennis Centre

Some of the courts will be demolished because many will not be used and replaced with a facility to accommodate retail and a hotel. The Main Tennis Court will be transformed for the Greek Basket League club, AEK Athens because they already have plans to make an indoor stadium. This way, they do not have to share with another team. This situation is similar to whats goes on at L.A. and how they have two professional teams sharing the staples center, and the L.A. Live area helps to separate the groups to give them their home courts outside the arena.

Conclusion

With the combination of the site renovations and additions, I believe this Olympic Complex can be revived or even transformed into a new life. People will want to be here with family and friends for breakfast, lunch, night light, music, shopping, or getting away. The campus will not only be making a profit, but it will also be net-zero in energy consumption, removing a lot of the cost burdens.

Client Description

This project has many clients, as some facilities have different owners or leasers. The Greek Government owns the stadiums, arenas, and the grounds. Still, professional leagues such as basketball clubs AEK Athens and Panathinaikos, also the professional football team would also hold games here and lease the venues for stints of time. With the addition of mixed-use retail and hotels, the leasers and owners for those spaces will be kept in mind when design. There will be a mix of private owners and Government-owned property. The Government can benefit from leasing or selling the land to see the barren land prosper and bring a profit.

User Description

Athenians, Tourists, and Vacationers will all be using the site after the Olympics' initial use. The site will have tours available to see how it was used for the Olympics during the day if no other events are going for tourists. Also, there will be a range of food and stores they can try out for that group. The Athenians will enjoy every part of the relaxation and entertainment or have their own business or seek employment on the campus. Vacationers that don't want to be grouped in with tourists can also enjoy this complex because its main focus is on entertainment and relaxation with a luxury touch depending on what hotel and shopping style they choose. They will have access to transportation to take them to the beach any other locations they seek out. Things to do from dawn to the moon are well past its peak with entertainment for all ages and groups. And when an event is over at a facility, the guests will be compelled to stay and continue their fun.

Figure 32 Athens Olympic Sports Complex

Project Focus

Project Emphasis

1.) Can an Olympic Complex be revived to be a multi-use and self-sustaining project that will give back to the community economically beyond its initial use?

a.) Add multi-use commercail properties in empty and run down areas.

b.) Get the community involved as much as possible and use eco-friendly products.

c.) Make it flexible for endless events. Events such as drive-ins, graduations, wedding, award ceramonies, concercts, sporting events, and so much more.

2.) If possible, can this avoid Olympic Complexes from being abandoned in the future?

a.) The Olympic facilities should not be abandoned if they have a proper plan specific to the community it is in, and it is followed through with to the fullest extent.

b.) The Olympics should add to the city it's in and not take away from it. The funding should meet all justifications of the building and renovating of the project proposal.

Goals

Academic

1.) Use research resources and my advisors to the maximum extent possible.

2.) Learn why nothing has been done to stop these complexes from being abandoned.

3.) Create awareness for more safety needs inside and outside of facilities.

4.) To find out what a project at this scale needs to function at an economic benefit.

Personal

1.) Have all buildings on the site tie into each aesthetically.

2.) Gain awareness of the financial impact an olympic complex has on a community.

3.) Create an atmosphere where people want to gather at all times of day safely and enjoy their time spent there.

Professional

1.) To use the existing footprint but utilize it in a better urban design.

2.) Create a self-sustaining complex that can be used for generations and can set as an example for future designs.

3.) Learn what a community wants from a project like this.

Create awareness of abandonment of expensive Olympic Complexes.

A Plan for Proceeding

Definitions of Research and Direction

Premiss

Can adding multi-use properties and enhancements to an olympic complex help it avoid being abandoned and continue to support the community after the games?

Project Typology

Multi-use Entertainment Complex

Historical Research

Records broken by olympians and what the buildings are named after.

What was there before the Oplymics of 2004 and restore it.

Site Analysis

Site analysis is an one going process.

I will hopefully get to visit the site before March o 2021 as i was not able to in 2020.

Program Requirements

a.) How can one make an anbonded Olypmic Stadium Complex Profitable by enhancing the building and campus?

b.) Can a Stadium complex be selfsustainable?

Design Methology

Mixed methods quantitative and qualitative analysis will be used.

Quantitative

a.) Simulators for sound and pathways.
b.) Archive search system.
c.) Internet: News articles from the past and up to date.

Qualitative

a.)Direct Interviews from a local.
b.)Advisors guidance and expertise.
c.)Surveys for people of all ages and areas.

Design Process

Inspiration:

a.) Greek Architect and Engineer Lannis Xenakis
b.) Community
c.) Sports and Music

Medium:

Multiple
a.) Sketching kept in a sketchbook that also holds hand written notes.
b.) 3D modeling applications such as Revit, Sketch-up, and Enscape.

Recording:

Data will be kept in seral ways.
a.) Sketchbook for all hand-drawn and writing.
b.) Hardrive folders on the computer for all electronic purposes.
1.) Flashdrive for backup.

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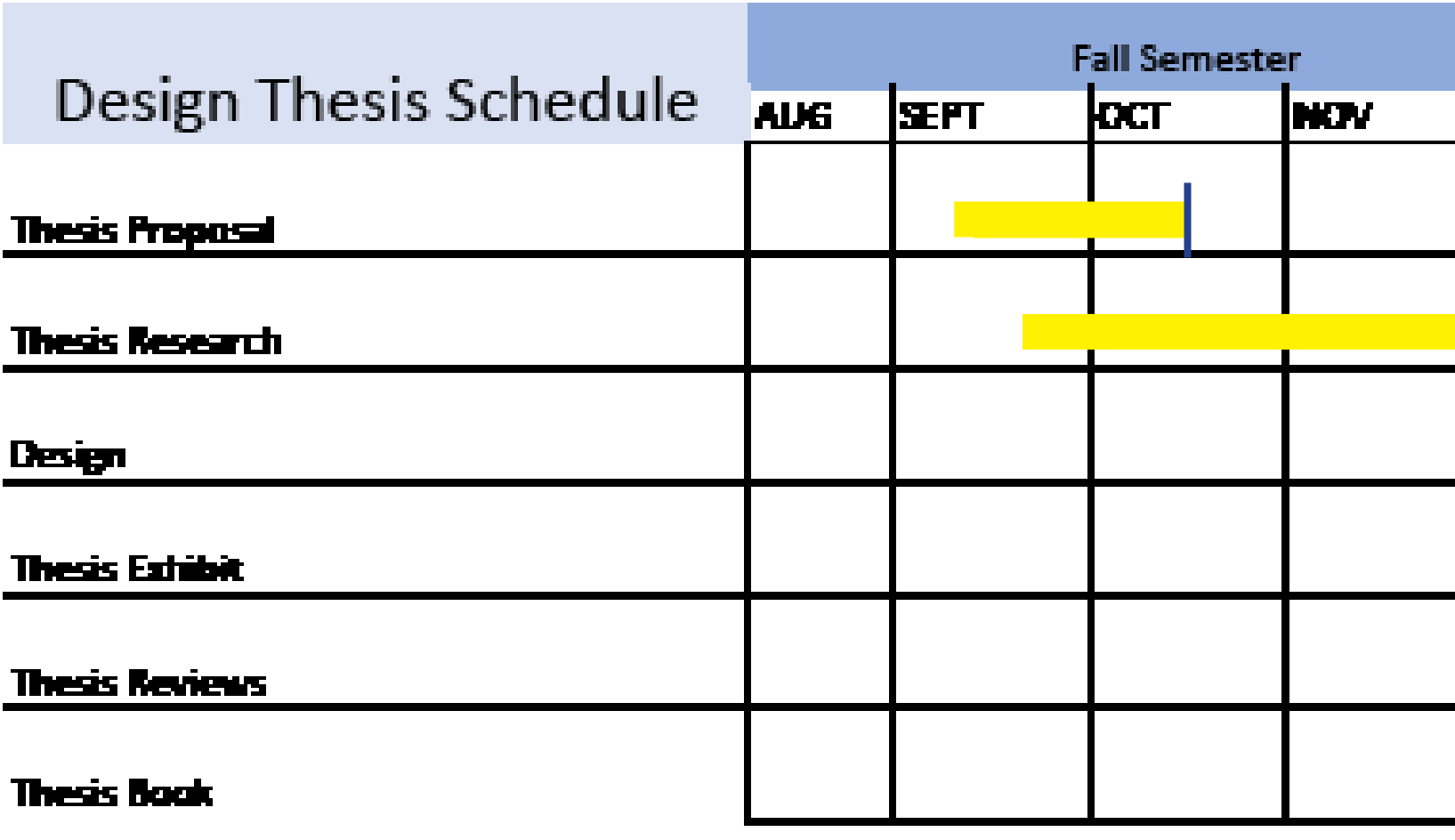
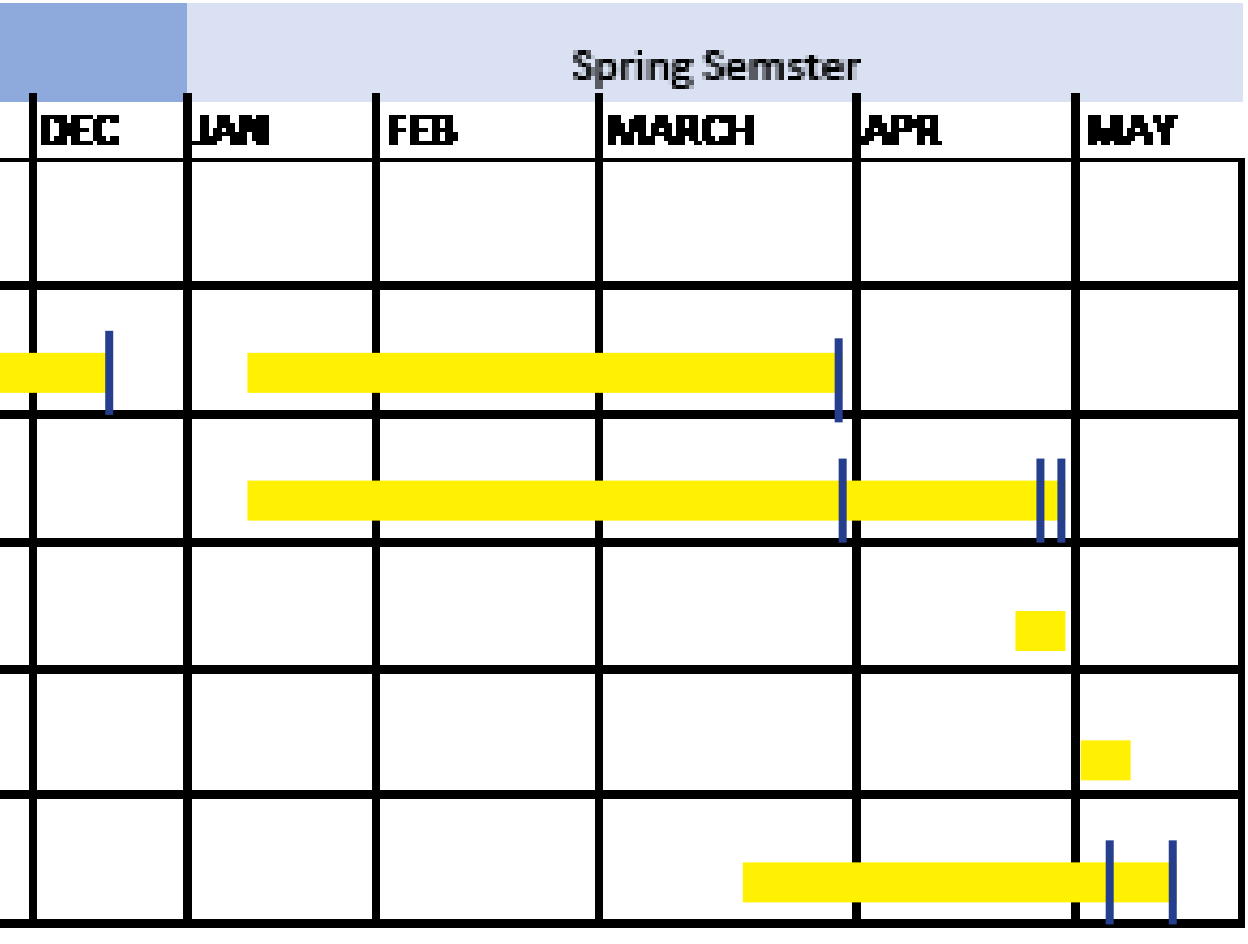
Table 4 Schedule



S c h e d u l e



Thesis Propasal: OCT 13
Thesis Research: DEC 17TH Final edited copy due on MAR12TH

Midterm Reviews: MAR 8TH-12TH

Digital Design Copy: APR 26TH Exhit on APR 27TH-29TH

Final REview: MAY 3RD-6TH

Thesis Book: MAY 10TH DIFITAL HARD COPY MAY 14TH

R e s e a r c h

Master Guide

When I first started my research journey for my thesis, I thought back on my short semester abroad in Europe. The things I saw and heard have influence where I want my project end goal to be. One is being as green as possible is essential all over Europe, and the second is that music is everywhere! My classmates and I were looking for concerts we could go to every city on the itinerary. I was listening to what people thought of the newest stadium out there, like the O2 in London, UK and the US Bank Stadium in Minneapolis, MN, and how the sound quality is subpar when it comes to musical entertainment. Cars were everywhere and a problem to be solved because no one wants to look at cars in Europe or space for them in the tiny streets.

First, I looked into any green codes or certifications that I will have or can follow when designing next semester. Does Europe or Greece have or have something similar to LEED. I would not be surprised if there were with how progressive the European Union is with green motions. To pair with the codes and certifications, I want to aim for the entire complex to be net-zero carbon emissions. Looking into how much the largest stadium in Greece energy computation will be a priority and replicated with the other facilities getting renovated and built on the site.

Next was how well are regular stadiums performing these days and what can be better. I sent out a survey to get people feedback about entertainment before and after the event, plus how they felt about the safety features and procedures for events. The sound quality of the stadiums for concerts will need to be improved. More people are attending these venues because of living music and not sports, which is usually is the main focus. Guests and artists may refuse to come to the event just because of the sound quality. I do not blame them. You are there to listen to and watch your favorite artists. If one of those is compromised, then it is wasted of money and talent.

I decided to see if there is a track system that will allow sound plates to move and adjust to different events. This solution could give the spectators the best experience they came for by enhancing the sound and light show by play with highlights, shadows, and shapes with the plates ceilings, walls, or hovering over their heads. If a track system does not exist, I will have to design one myself. To sum the sound system together, I will have to understand the materials I am working with outside the stadium. Also, at what angle are the sound waves hitting the spectator, and can they even reach them? The sound plates can help eliminate the dead spots created by nosebleed seats and balconies.

Finally, I looked into how the people of Greece, especially Athens function. What is their work-life and personal life balance like? What are business hours during the week and weekend, and are there and laws to go with them? What do they do for fun, and where do they come from? What do that think of the abandoned Olympic site? These are the questions that ran through my mind.

Piecing all of this information should lead me down the right path for the best design solutions. Reviving an abandoned Olympic Complex will not be easy, but this will help me search to give the site new life and the locals a getaway from a hard day's work.

LEED Europe

Figure 33 LEED Credit Categories

LEED certifications double about every year in Europe, but it still only counts for about four percent of sustainable commercial building certifications. They are using it to improve a better quality of life or all, creating from its universal applicability and reliability. The most popular countries that use it are Sweden, Italy, and Germany. Though it is an American born organization, Europe is at home with this program and lives to keep advancing through it year after year. The same programs must be followed as the US unless local laws limit the process. That is okay; you will end up missing some points when applying for certification.

LEED Qualifications Point System

project name

Project ID

Physical address

Date of registration

Date of certification

Certification level

Total points earned

Project scorecard

ACP (Alternative Compliance Path) selection

The rating system and version Owner type

Owner name

Owner organization

Gross square footage

Total property area

Project type

Recognition for reporting energy, water, waste, transportation, and human experience performance data

Service providers

Project team members

Promotional or other project photographs

Project strategies for certification

Quotations from team members

Figure 34 LEED Point System

CERTIFIED
40 - 49 POINTS

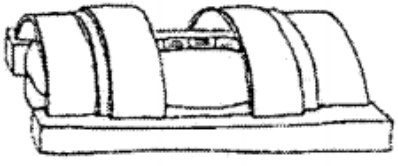
SILVER
50 - 59 POINTS

GOLD
60 - 79 POINTS

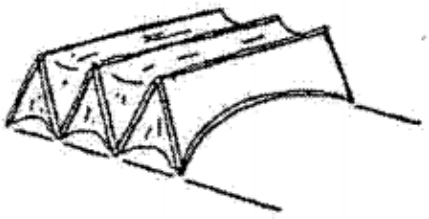
PLATINIUM
80+ POINTS

Is there a Track system?

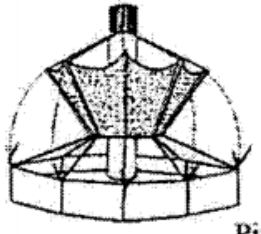
No, not one that will be able to hand the weight of moving parts to have to be designed. What will work like a track system is something similar to a retractable roof. There are multiple different kinds, but the two I will be looking at are a cable system and a pin and wheel system. From the Spyros Louis Stadium's beginning looks, I believe it a either an up and down system for the cables, a parallel overlapping or folding system for the pin and wheel system, or a pantograph structure.



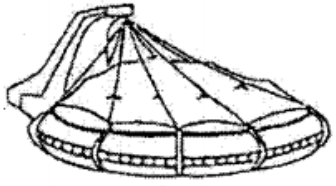
Parallel movement
- Overlapping system



Parallel movement
- Folding system



Pivoted system



Up and down system
- Folding system

Figure 35 Roof Systems

Moving ShellTrack System

Loads

When designing a moving roof system, static and non-static loads must be considered because a shell will be attached and moved with the structure. The pieces of the shell will also move, giving you the need for statice load calculation. To add to the loads, temperature, horizontal load, impact forces during opening and closing, inertia force, brake force, an impact load to the buffer will need to be considered. It snows in Athens that will have to be configured too along with it on a rare chance.

A pantograph structure is used scissor-like elements to move and create shapes. The framework uses rods that have three nodes, one in the middle and one side. The nodes are combined to create hinges when the rods are equal in length. Historically they have been applied to space structures, but there has been a push to use them for earth applications. The configuration limitations of this method are quite vast. When this system moves in a stress-free state, it must buckle or snap and the initial movement. The essential requirement is that the rods must equal each other or a+b=c+d.

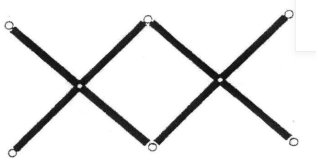
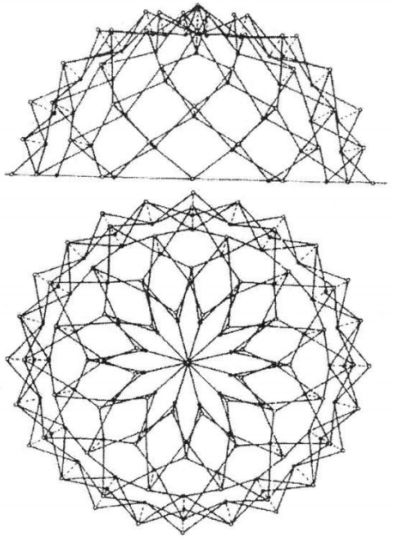
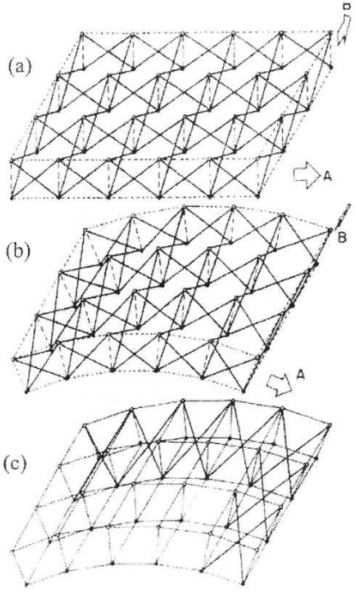


Figure 36-39 Pantopgragh System





Survey Results

My survey respondents are from a range of states, including Florida, Arizona, Minnesota, and South Dakota, and they answer questions targeting activities before and after events at stadiums. Activities include traveling, parking, eating, sleeping, shopping, and safety concerns. I wanted to get a range of ages from late teens to late adults, and 43 people participated. When I ask what one this that would change about safety is, the majority emphasized parking. The should be more lighting in parking lots and ramps. Also, more security and staff before and after the event would make people feel safer in the parking areas.

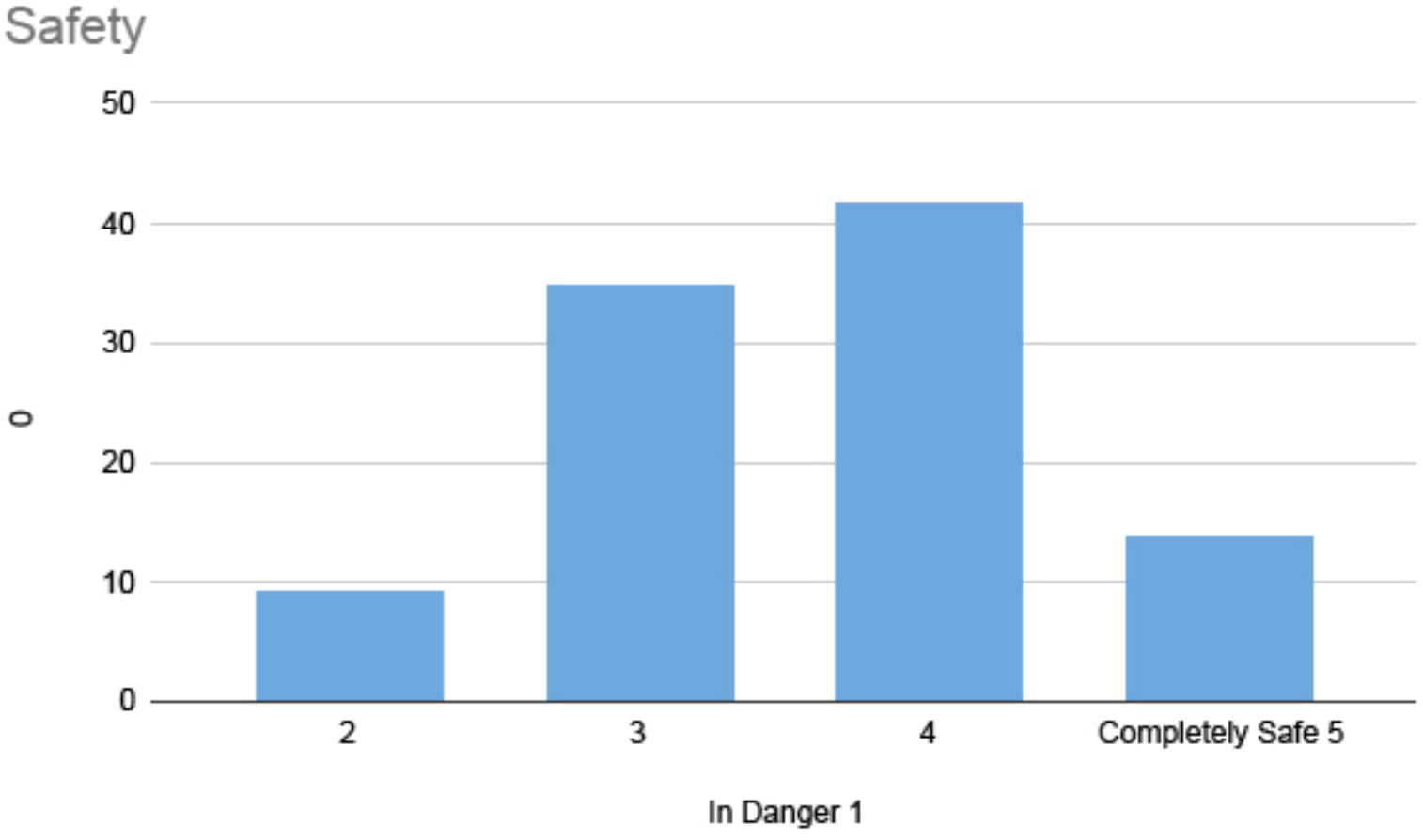


Chart 1 Safety

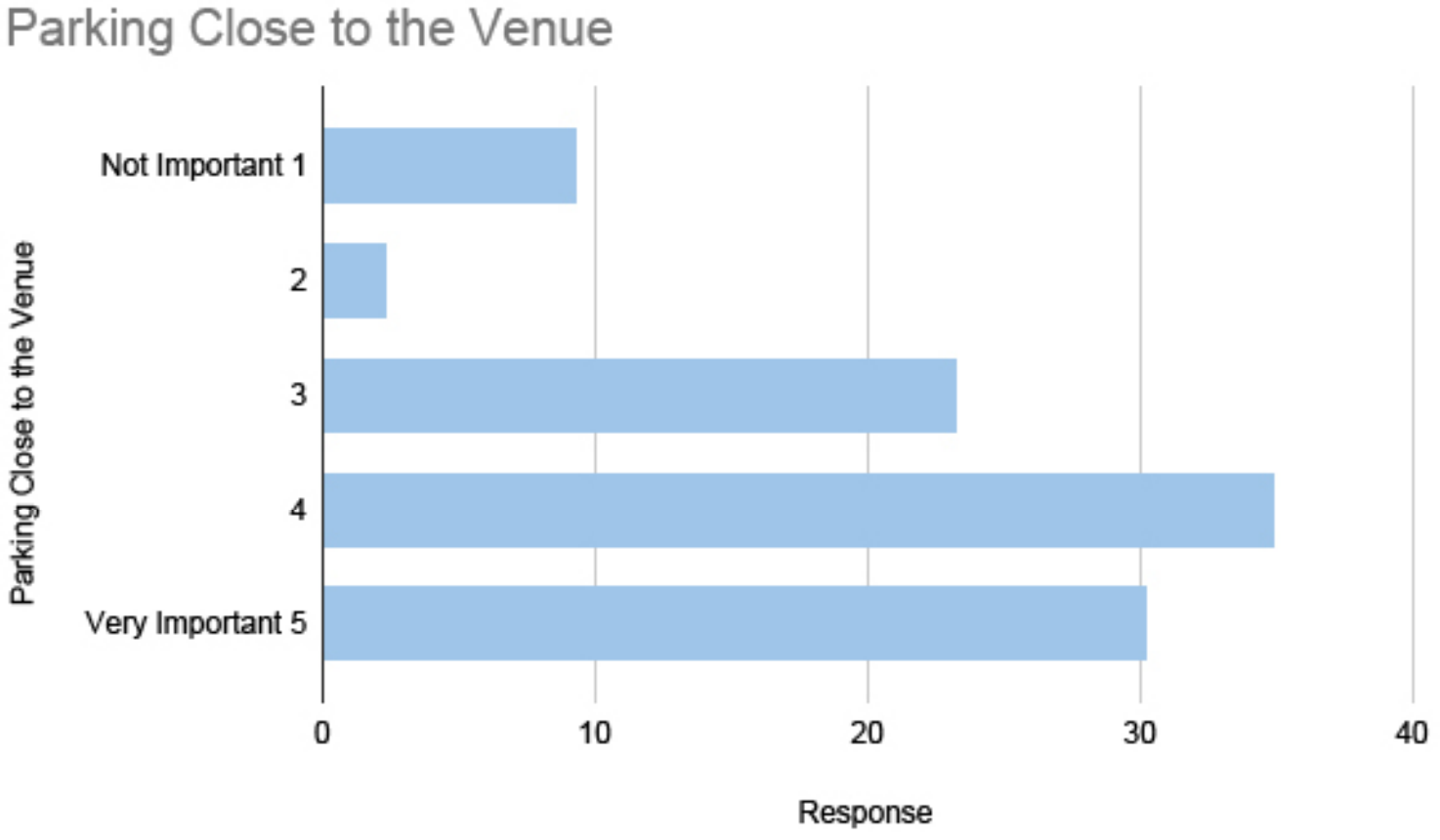


Chart 2 Parking Importance

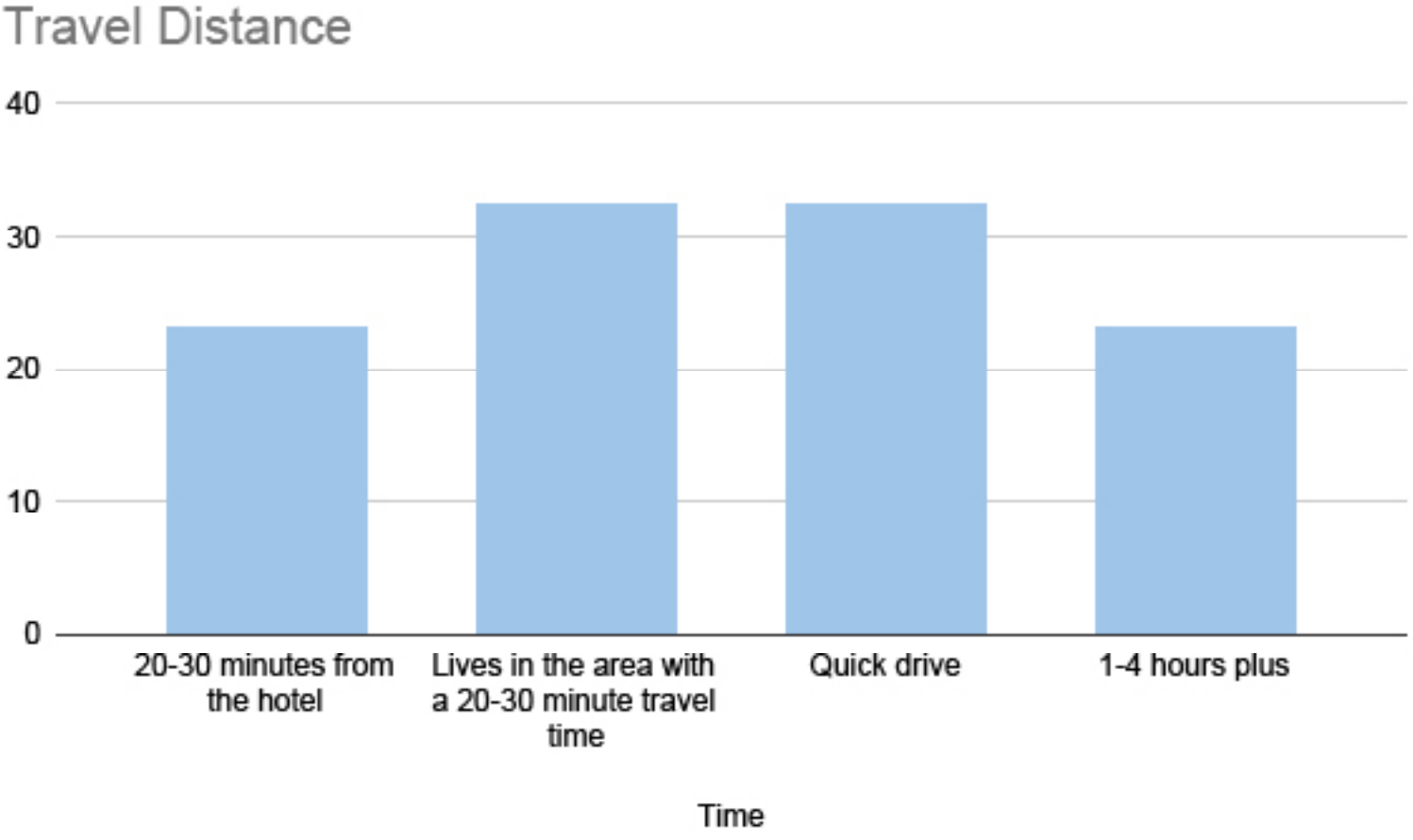


Chart 3 Travel Distance

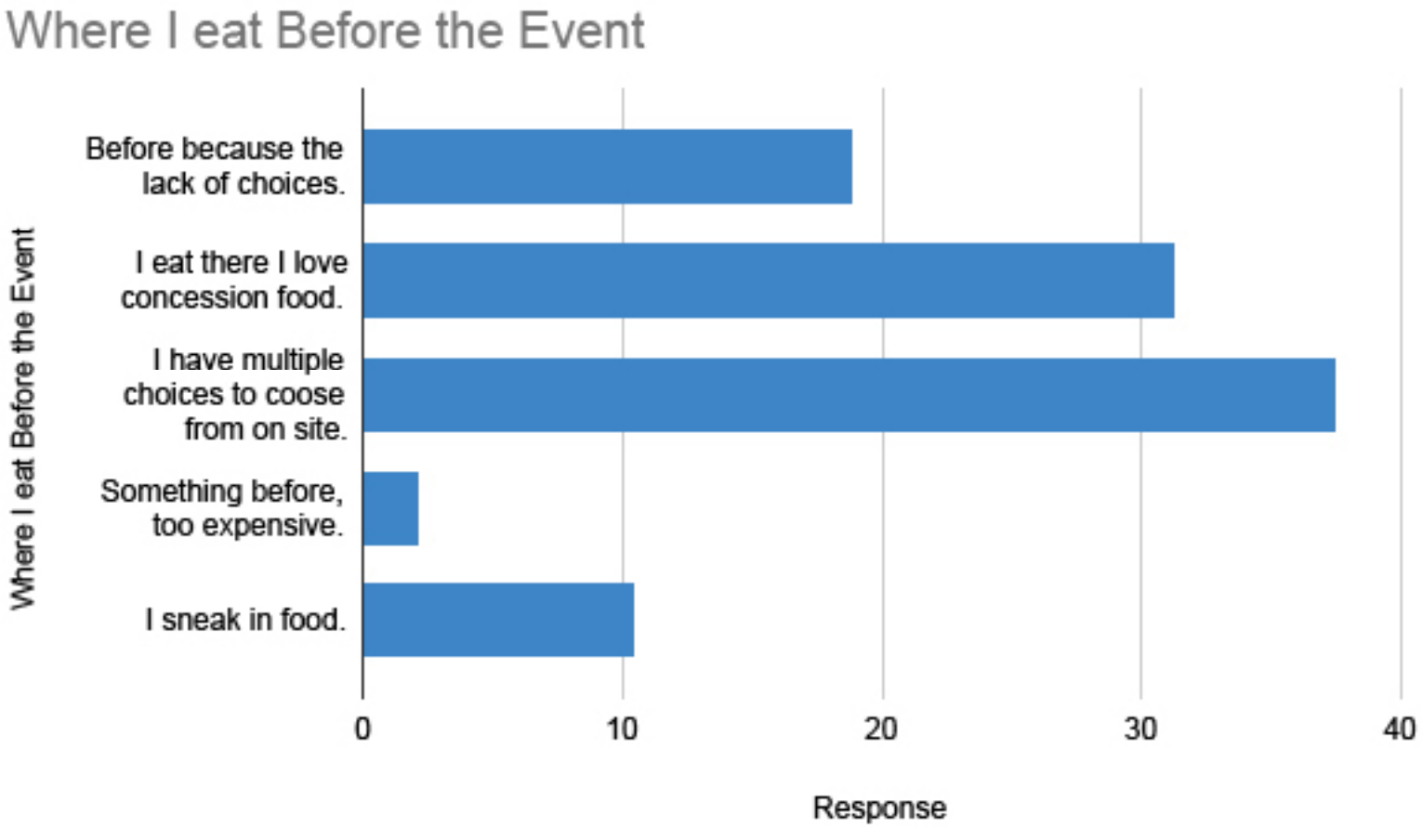


Chart 4 Eating

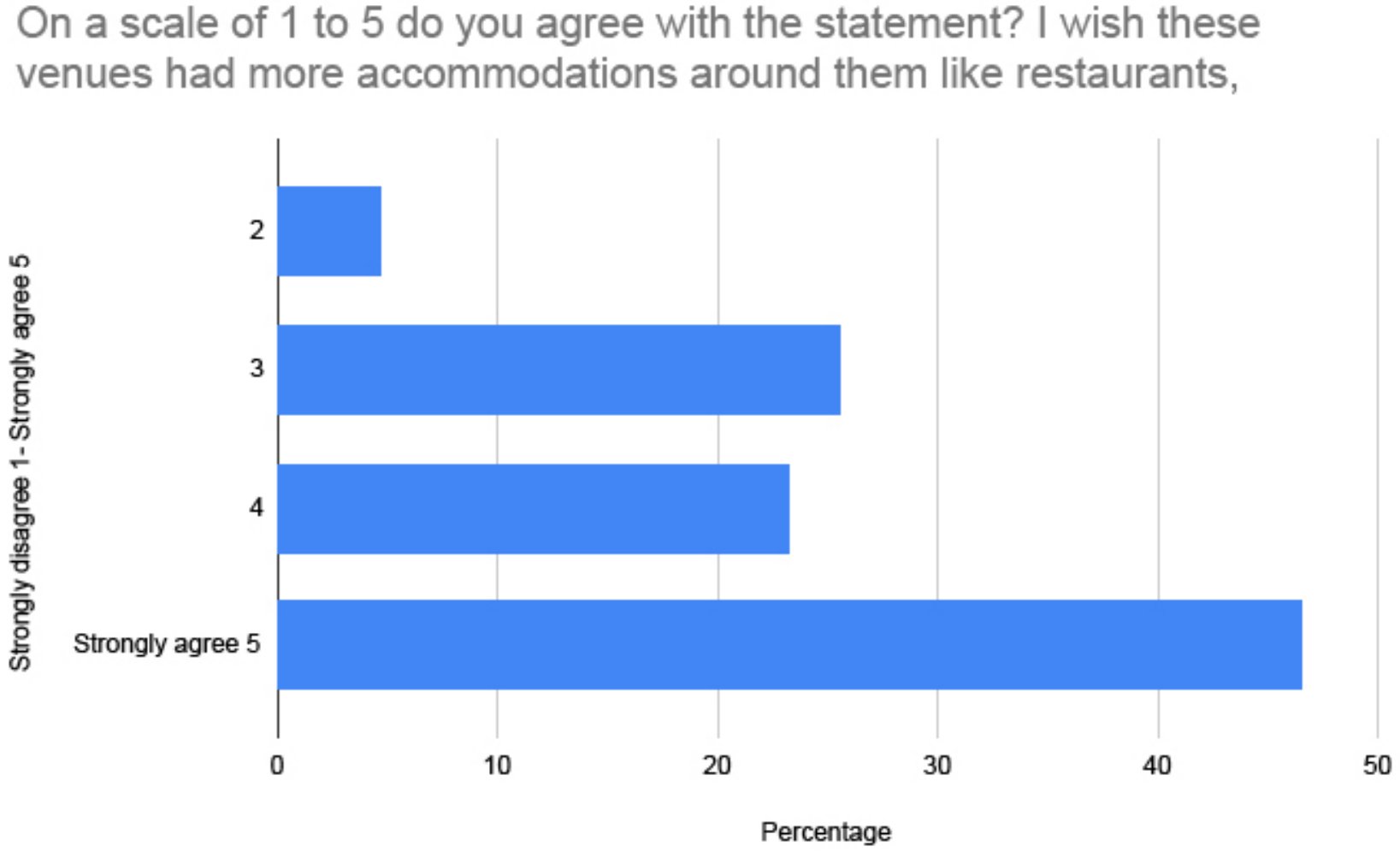


Chart 5 The Need for More

Justification

Personal Importance

I grew up around sports and music and believed they build character and have a place to perform in for the best of the best to give a goal to strive for. When sites such as stadiums and arenas are mainly designed for sports and short-termed, it is a massive waste of money and material. The music and entertainment industry is becoming a big-strong market, that these venues should be more versatile for both needs, giving a more fulfilling experience. The other part of my project is these venues are left empty most of the year, not bringing money. The owners have usually bought the land around it that can be developed for more entertainment and multi-use purposes to bring in money and safety features.

Personal Adademic Development Importantance

This generation uses entertainment as a way to relieve stress and hard times and they also use it to celebrate. More and more safety around the world is brought up and how it can always be better. By making the safety of the complexe better by having people there throughout the day with things to do, with security, and by adding light for night time you can also generate more income. I need to learn about acoustics and how they work in large venues. Where dead spots lie and how to have the least amount of them by using technology, sustainability so the complex can produce as much energy for itself that it can to save money in the long run and safer for the environment, and economics of major event venues so that they can bring in money more than just for sport seasons and some concerts will all be critical components to my education at this point.

Personal Professional Development Importance

It is something I want to do later in my career. I love working with communities, and these areas can either lift it or be the downfall. Music, sports, and other activities are essential for developing children and young adults, and I want to help continue and advance for the future. Having an end goal to work for motivates and teaches the children to strive for their dreams. It is a way to implement researching skills to create a beautiful project for my portfolio. It will also allow me to become more specialized in acoustics and master planning for a complex and city.

Knowledge & Skillsets Development

My knowledge about acoustics and urban planning will grow immensely during this process. I know little about big venues and mixed-use systems, how people move in large areas, how to adjust to the city that I am working with, city planning, and how the project will affect the surroundings, research implantation, and a better economy understanding. I will also further my skillset in design programs such as Revit, Sketchup, Photoshop, excel, and Indesign.

Necessary Profession Development

We are the first generation to see the effects of global warming and want to have more intent behind what we do. With Olympic stadiums mainly focused on this project, the stadium was abandoned or taken down right after the games. All of that money and materials practically go to waste. We rush to demolish buildings rather than seeing what we can do with the bones that already exist.

Academic Exercise Importance

It puts together everything I have learned in my undergraduate education and enforces it to a high standard. Teaches me how to research outside of my comfort zone to reach the best solution. Before we, as students, go out into the

field, the importance of research to better the profession to makethe planet a better place is paramount. It is the foundation of what we will do for the rest of our careers and how we will handle the challenges we will face with stress, deadlines, and limitations.

Economic Justification

The venue will have a purpose for more than just the Olympic games and only the occasional sports game. It will also give back to the community. Billions of dollars go into these projects initially; they need to have more use after the games. This land sits with the facilities wasting away. Minor music festivals have been hosted in the stadium, and I believe the entire campus can capitalize on that. They can have their own festival, Europe and Greece love and breathes for music and it would be an excellent place. The facilities need the proper updates to support musical entertainments, which will bring in more income than sports will. Fewer people are watching sports, and more are going to concerts for live music.

Funding & Investment

The City or they could come from Corporations/Businesses that want to fund it. The City can benefit if they plan it right to profit and put it back into the City. If a private source funds, like the professional club teams and sponsors, it can still be beneficial for the City by taking some of the financial relief off of the City. Furthermore, the Private Sources still give back to the City through taxes, upkeep infrastructure, and donations. There will be a return on investment from the new development plan. With the site being net-zero in emission, it will help with costs and a larger profit. Also, since nothing is coming off the site now, it will only be beneficial to them to use it.

Monetary is from the profit of sales of tickets, services, and goods and the money coming in from renting out the retail space for stores and restaurants. Intangible will be the community's environment to enjoy—a place to have fun and relax no matter the age. Parks and playgrounds or kids will be added along with shopping and places to eat and

have coffee. Greeks like nature but do not like to be in it, so having coffee shops and cafes right by the parking area will give them a nice relaxing area while supporting the businesses. The outdoor movie theater will be restored, a favorite of the community and the housing for the Olympics will be altered into a hotel for guests to stay on-site for the events

Post-Occupancy

The complex should hold a music festival that involves all of the arenas and stadiums simultaneously. The hotels should always be at thirty percent occupancy to break even. That is based on a luxury standard, so the more affordable hotel will prosper with this standard. The retail will be used from middle-end shopping to bring in clients of variety and clients that can afford the rent on a consistent base. The higher-end stores will help support the rent for lower-end or local brands that cannot fully afford the high rent in Greece. Both Professional Basketball, handball, and soccer teams will have their facility to call their home and lease out to others. The grounds will still be open for those who want to use it for exercising in a safe place. If this plan was successful or not and can be used for future stadiums or other complexes that have been abandoned. If successful, there should not be a reason to tear down or leave them behind if planned for the right community and not just the cookie-cutter way of just adjusting to regular sports and tours that does not work again and a again. The project should be left so that the complex will shift with it when the future changes its ways. It will be designed in a flexible way for the future.

Environmental Impacts

Less land and materials would be needed in the future because the reusing of exiting stadium will be available and more attractive. The complex can make most of its energy, if not all, through solar energy collection and recycling and collecting water. Moreover, The main one for this project is that the stadium's infrastructure is already there. Hence, most of the materials needed for a project like this are already there and done. Updates will need to happen to keep it up to date and

functioning for years to come. Olympic venues compete with their own of which country and City can create the best one and then abandon and demolish them almost immediately.

Technology

Europe is focused on being green, and Greece is also huge with music. Music is where Greeks come from; it is a part of their life. So if the stadium is enhanced for music and entertainment, it would have more of a profit. Sound quality can make or break a facility, and if performers and guests will come back again and how much you can charge for a seat.

Social & Cultural context

People question why these massive and fancy venues are built if we do not do anything with them after a real plan. So Cities, States, and Countries might not want them there because it might not outweigh the cost of the benefits of just updating the infrastructure of transportation systems and short-term upkeep in tourism.

What might work for multi-use projects similar to this in the Us might not work in Greece or other countries. How people shop, dine, and use transportation is all different and essential. Furthermore, safety concerns will be different, like pickpocketing would be huge in Athens, versus people are more concerned about their lives in the US.

Site

It is a more recent Olympic Stadium and complex that had a plan and failed to lead to its abandonment within the last twenty years. Nevertheless, the bones are still good and can be revived and renovated to be used in a more beneficial way to bring in income and a fun place to be for the community.

Imperative

I believe it is imperative because this can be used as an example for future Olympic complexes to be used again for the Olympics and other stadiums designed for cities. The complexes can run

on most of their energy, create a safer environment, create a fun and relaxing environment, and profit not just during tours and game days. These places are where people go to relax and escape from the world. Without some of those means, we start to lose parts of ourselves when things get too bleak.

Personal Challenge & Responsabilty

Someone else could if they are an expert or want to put in the work to solve it. I should solve it because i am passionate about it and have been involved in music and sports. I also love learning about the culture and forming this complex to work for Athens, Greece, is my main goal. I genuinely care about how a project will affect the community inside and out. Also, care about the project's effects on the environment and if it can be done better.

Historical, Social, and Cultrual Context

The history of this site is a chaotic one. From roads named after disgraced Olympic athletes, the plan not being followed, to the abandonment of the complex a few short years after the 2004 Olympics ended. The original architect and the planners for the Olympics lost their way, and a beautiful site is now a ghost town. Let us dig into how this became the site for the Olympic Sports Complex and how it became abandoned.

The Olympic Complex starts with stadiums already there. There are Spiros Louis Stadium, which was used as the main stadium, and the Olympic Velodrome. Spanish architect Santiago Calatrava designed both stadiums, and he also did the updates. The Olympics' updates were pretty expansive, but the Velodrome was grander because it did not have a bike cycling track in it. It was initially built in the year 1991 for the Mediterranean and kept after, which came in handy for the Olympics. The double roof hovers over the track by an exoskeleton cable system creating a beautiful organic aesthetic. This style is replicated with the main stadium, Spyros Louis.

Spyros Luis was designed in 1980 and constructed between 1980–1982 for the 1982 European Championships in Athletics. The stadium gets its name from the first Gold medalist of the modern-day marathon of the Olympics in 1892. The stadium went on to host the European Cup Final in 1983, the Winner's cup in 1986 through 1987, the UEFA Champions League final in 1994, and hosted the 2004 Summer Olympic Games. After the Olympics, it had only held one UEFA Champion League final in 2007. Since the Olympics, the stadium goes by the name

Olympic Athletic Center of Athens (O.A.K.A.), but people will understand both names. The roof was added during the renovations by Santiago Calatrava, and it has Enerpa hydraulics to help support the sprawling wings that cover the stadium seating. Part of the renovation was losing 3,000 seats, bringing it down to 72,000, though only 69,618 were made available to the public during the Olympic track and field events. It remains the largest stadium in Greece today, and the next big event is a rock music festival in June 2021. When they placed the stadium, they followed the decentralization trend and placed it outside of the City's heart. For the most part, it helps the City grow out from the water's congestion, but the surrounding area is residential except for a few malls like shopping centers and a college campus.

The original urban plan for the was not followed by the end of the process. The people had a favorite that included ample green space, a small outdoor theater, supermarkets, and mixed-use buildings. This will be part of the reason this complex has failed. They do not want to hang out on the site because there is nothing to look at and relax. Moreover, the only time there is entertainment is smaller venues. People use it for exercise, they have when a Professional team schedules a game in one of the venues or an occasional conference in the smaller venues. Dominique Perrault did the two indoor arenas on the site, and you can tell. They do not fit with Santiago Calatrava's stadiums in aesthetics. The shape and material do not match and throw off the site. Some have criticized Santiago Calatrava for making problematic buildings to design with, but they are masterpieces in themselves. People use the site for exercise, they have to take over some of the spaces if they can handle the rent, or residents of the City use the grounds as a running course. This is great for their health, but the complex does not see any revenue for it, and it cannot keep itself updated and well kept. Graffiti has taken over multiple surfaces, and the limited green areas are overgrown or dying. Do not get me started on the fountains, and they have not been filled in years, leaving out the most beautiful part of the grounds. They compliment the arch walkway and reflect the lights at night. It is no surprise that

people do not come here to spend time.

So what do the Greeks like to do with their free time? First, what is their working culture like? The average Greek will work 40.3 hours a week, starting between eight and nine in the morning. Different businesses are open for a range of time, depending on what day it is. Banks you will find open Monday through Thursday from 8:00 to 15:00, and on Fridays, they will be open to 14:00. Shops will be open at two different points in the day; the hours are 9:00-15:00 Monday through Saturdays plus Tuesday, Thursday, and Fridays from the evenings 17:00 to 21:00. Only recently did a law pass that stops can be open on Sundays, but only stops located in tourist areas are taking advantage of it at this point. Large department stores and Malls give more broad hours with 10:00 to 23:00 on weekdays and Saturdays from 10:00 to 20:00.

The Greek citizens work eighteen percent more hours than the rest of European countries in OECD at 2,109 a year to their 1,749 hours. Greek workers are struggling to find a balance between work-life and personal life. The Organisation for Economic Cooperation and Development comprises thirty-seven countries, including the United States of America. When you are built on an entertainment heritage, it can be hard for them to find that balance. When they see people from Greece go work for the same or more wage for fewer hours in other countries in the OECD.

So what did I mean by built on entertainment? Going back to one of the first major and still standing performance theaters are in Greece. They are apart of the top five things to see in Greece. When I would talk with one of my advisors for my thesis, I would get a second-hand look at the Greeks' lives. Professor Anna Maria Visilia is from Greece and is aiding me during my research and design, so I stay on the right track for the Greek people and the occasional translation for an article. She is the one who told me the Greeks and "born from music" and was excited when I want to implement more musical entertainment aspect on the campus when

reviving it. It made me feel like I was on the right path. The more I look into it the more i see what she is saying. Even the first hour of the opening ceromony of the Olympics help here was traditional drum folk music. I continued to talk about adding green space and maybe a farmers market to the campus. Professor Visilia continued telling me about festivals just meant for the kids and how farmers' markets are entirely different from the US.

When planning the green space, I should add a park area for kids and families to enjoy a nearby cafe or restaurant. Having a place to eat with sitting outside and other seating arrangements around the green space is essential, "Greeks love to look at nature but not be in it". They need a place to sit and relax, where they can watch kids play and people walk by. This explains a lot for the housing; they have a big open window to the views and breezes with patios everywhere to sit back and enjoy. Their love for food is also seen as eating outside is done quite often during the warmer months. The nights bring nice cool air compared to the hot summer days, perfect for entertainment under the stars. For farmers' markets, let us get one thing straight: they are cheap, unlike what you see in the United States. A bag of apples will cost a third of the price compared to the supermarket. The farmer's market is for the people trying to save money and maybe cannot afford the supermarket prices. Also, the layout of the market should be straight. The traditional farmer's market is don on the streets, which the community is used to. So if I do one, I must keep the layout in mind and keep it straight and street-like. Markets are done on a different day in each neighborhood every week to add to all of the information. This way, everyone who needs to get their supplies can, and the suppliers from all areas can sell.

With this revival and renovation of the Olympic Sports Complex will bring is a space to escape. It can help bring part of that personal life back into the balance that many Greece citizens are missing. Along with the green areas and music, outlet or higher-end shopping will be added to the site to help take over to rent burred for other sops on

the site. This will help create jobs after the crisis we are facing now while giving people a getaway that they need. All the beautiful places are swarmed with tourists, and it is hard to relax for locals. This campus is away from the water and heart of the City that the tourist should be lower; it is one of the reasons the complex close because tours were not supporting it enough. Not to mention that all the supporting transportation projects and the airport updates falling through that left a bad taste in their mouths might be keeping them from loving the site.

Literature Review

For my literature review assignment, I will be focusing on sound and music with architecture. Acoustics will be the significant changing point for this complex and can also affect the aesthetic of the Spiros Stadium and the smaller stadiums and arenas. Professor Anna Maria has given me some advice that Greece is born from music; it's who they are in every way. Not only is Greece big on music but so is Europe as a whole loves music festivals of all kinds. This complex has the ground and the families to be converted to host music festivals. To start, I research some of the basic knowledge of sound with architecture, and the second is pushing boundaries where music events can be held.

Architectural Acoustics Basics

For the first review, the information comes from "Architectural Acoustics" by M. David Egan for the basics of materials and shapes with reflections, diffusion, absorption, and echoes. The material that is vastly around in the stadiums and arenas is concrete and corrugated metal. To understand all of it, one must first understand A-weighted sound levels measured in decibels or dBA. Knowing the sound magnitude of the facility I am designing can help guests feel more comfortable in the space they are in because an individual's sensitivity to sound varies. Low to high frequencies can disrupt a person's psychological balance. These measurements can help predict how people will react to environmental noise. That is where noise ordinance comes from and why limitations are in certain areas. Such as a rural neighborhood will have a much lower limit on noise compared to the middle of a busy city that is always moving. When a loud truck or a train blows its horn, you have to stop talking or a neighbor blasting music. Unhappy occupants happen with poor city planning or choosing the wrong place to live. To better understand how sound travels, you have to get down to the basics, which is in its numerical form of sound waves and decimals. Below are examples of the scale and a venue for concerts and how noise is measured.

A-Weighing (dB) Scale Example							
63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
-25	-15	-8	-3	0	+1	+1	-1

Table 5-6 A-Weighing Interior Spaces

Sound Pressure Level (dB)									
Interior Spaces									
Example	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dBA
Amplified Rock Music Performance (large arena)	116	117	119	116	118	115	109	102	121
Auditorium (applause)	60	68	78	79	85	84	75	65	88
Gymnasium	72	78	84	89	86	80	72	64	90
Music Practice Room	90	94	96	96	96	91	91	90	100
Reception & Lobby Area	60	66	72	77	74	68	60	50	78

The examples show from very low decibels of applause and reception to a Rock Concert medium in a large arena. This information helps find the best solutions for reflection and absorption, so the sound does not overflow into other space, which will be the next topic this book is aiding me in. First, I looked at the *reflection and *absorption of some of the materials being used in the project.

Reflection: the return of a sound wave from a surface. When a surface dimension is more significant than two to four times the wavelength of the impinging sound wave, and the incidence angle is equal to the reflection angle, a rasping sound is created.

Absorption: This means that sound energy is converted into mechanical vibration energy and heat energy, Sound absorption (α). Most sound absorption tiles do not have enough structure to be mounted on a wall; it should be hanging from the ceiling.

This information points me in the right direction because I want my sound tiles to move. No matter if they absorb or reflect the sound waves to improve the sounds quality of the outdoor facility. These tiles can help protect the surrounding areas from the sound concert will project how to add balconies, and their angles will affect the sound is even discussed and very helpful. Many dead spaces are created because a balcony may be too high or cover too much of the space below that the sound wave cannot reach those areas. This enormously changes someone's experience when attending a concert or any event and the sound quality is too loud, echoing, or too quiet and dull. It can make an artist sound awful when on, which means people and performers will no longer want to attend that venue. Now let's look at the materials' numbers with reflection and absorption taken into consideration when designing.

Absorption Chart								
Walls								
Concrete	Reflection	0.10	0.05	0.06	0.07	0.09	0.08	0.05
	Absorption	0.36	0.44	0.31	0.29	0.25	0.25	0.35
Floors and Ceilings								
Concrete	Reflection	0.01	0.01	0.02	0.02	0.02	0.02	0.00
Glass - Fiberboard spaced 18 inches apart	Absorption	0.07	0.20	0.40	0.52	0.60	0.67	0.45
Seats and Audience								
Audience	Absorption	0.39	0.57	0.80	0.94	0.92	0.82	
Seats	Absorption	0.15	0.19	0.22	0.39	0.38	0.30	
Openings								
Deep Balcony	Absorption	0.50 - 1.00						
Stage	Absorption	0.25 - 0.75						

Table 7 Absorption Chart

Knowing what materials you are using, where they are located, and what event is happening in the space can lead you to design the best solution, which I hope to do with the Olympic Complex's venue spaces. When angles are not enough to control the sound, you can bring outside materials to either reflect differently or absorb. A material can help push a sound back into a balcony placed too far back or take away sound from the neighboring occupants that may be disrupted by a tremendous noise like a concert. Protecting the venue and the surroundings all play a part in making a project successful. If people are not enjoying the time at the event hosted by the forum, they are most likely not to come leading to a failed performance. And if the facility gets too many complaints, it can cause the facility to change what it does entirely because of sound and noise control problems. And if people don't want to live there or rent retail or commercial space because of those same problems, that drives down the area and leads to more problems than just sound. I must have a facility that can perform well beyond the basics to be successful where it is located and from its economic standpoint.

Music & Architecture

The next source I am gathering information from was brought to my attention by Professor Anna Maria. Lannis Xenakis is a Greek architect, engineer, and composer, and he wrote a book, "Music and Architecture," that is a compilation of his works and studies he had done in all three fields. During their civil war, he escaped from Greece; he was serving in because he was sentenced to death for war crimes and settled in Paris, France, with some help from a friend. That same friend also leads him to his only job with Le Corbusier before he went off on his own. At the time, he wanted a career that supported him enough that he could pursue music at night. He graduated with an engineering degree specializing in reinforced concrete, which is why Le Corbusier hired him. The way Xenakis thinks about architecture and music is why I find him so exciting and relevant to my project. He continually pushes the envelope, seriously the building's envelope to be more creative and thinner and interiors to be the best they can be for music and the listener and viewer.

The Myths of Decentralization and Orthogonality

Let's start with what Xenakis thinks of decentralization and its aesthetic and process it brings to our lives. Xenakis believes this is the worst solution to humankind and ruins creativity. It causes the design to become basic geometry, and we live in shoe boxes or rabbit cages that sometimes have decoration or not at all. *Decentralization is dispersing industrial centers throughout the territory, and it may be universal for all condensed cities. This method is applied to stadiums and arenas, causing a disconnection between the citizens' hearts and location. Putting a complex that its purpose is to entertain people away from the people has caused multiple project performance failures. This semi happened with Athens, Greece 2004 for the Olympic Sports Complex; the planners

put the city's complex furth, hoping the city would grow around it. It did urban residential, limiting the growth of the facility and the area around it.

Decentralization: The process by which an organization's activities, particularly those regarding planning and decision making, are distributed or delegated away from a central, authoritative location or group.

No one wants to travel that far from the Beaches of Greece, for you to just look at mazes of housing units till you get to the complex to get a tour. This poor planning plays into orthogonality, another method that Xenakis hates and believes will be the downfall of cities, and it is. *Orthogonality has led to two dead cities or ghost cities because of this type of planning. This method is when you have poor planning on paper when straight lines meet the curved ones and call it that with some hope it works out. It lacks imagination, creativity, and thoughtfulness of function. When owners and planners for stadiums find cheap land right outside of the city or sometimes even miles away, they think they have found a jackpot and are doing a great thing for the community. But this will drive up the land around it at the beginning, so businesses cannot afford it, then prices will drop. When prices fall, planning of random industry and residential around the complex can ruin the safety and aesthetics they originally envisioned. Designers also believe this gives them more freedom with design, but true freedom and imagination come from when your limits are being pushed with a site with limits.

Orthogonality: 'orthogonal plan' may also refer to a type of urban design layout that consists of mostly square street blocks with straight streets intersecting at right angles, forming a grid pattern, commonly referred to as a 'grid plan' or 'gridiron.'

When we are set with limitations like small spaces or sites, we can grow our field and a community. You can find places with abandoned or rundown buildings on them that can just be as cheap

and bring life and money back into an already existing area. This result led to the primary reason I chose an abandoned Olympic Complex and stadium: so much money and hope were put into these projects, hoping it would improve the infrastructure and bring in money, yet neither happened with Athens. The airport and transportation updates fell through, and the only plan for the complex was touring, and those stopped with the 2009 recession. Just proves their lack of planning and thinking that they could do what other countries have done with their complexes after the games. But they forgot to look at all the failed attempts with this method, but in Athens's defense, they are built on tourism with their ancient facility, but it may be time to switch it up if the Olympics continue in future forums.

Xenakis has an exciting approach called "Vertical Cosmic City" to solve decentralization and orthogonality problems. These cities are located in one spot and can go up for thousands of meters and take on beautiful organic shapes in the sky. Which is a crazy idea when it comes down to it, but the ideals that came from it are still following them today, and there are fourteen. Here are some of my favorites and that apply to my thesis.

"Vertical Cosmic City" Ideals

1.) Seek out a large population concentration.

a.) Industries instead pick a city rather than rural if they can afford it because of the available technology and workforce.

3.) You need extreme concentration and technical effort to imply total independence about the ground surface.

3.) Light should be able to penetrate everywhere and direct view to and from the outside world is necessary.
a.) This has led to the glass planes and other thin exteriors that continue to go up.

The "Vertical Cosmic City" ideals apply to my project because the site is now concentrated. The facilities inside have a light envelope, but no light reaches inside. We now have the technology and planning skills to make this Olympic Complex successful. As I said before, the complex is an overwhelming area, but the site is only used for running and walking and can do more with the right planning and activities. With how each facility was designed on the site, some were beautifully done with number three in mind, but the Nikos Hall and Aquatic Center were not. It is an indoor arena and lacks the elegance that the others have and seems out of place, almost like they ran out of time and funds to put in the thought. Nikos is essential; with it being indoor, it can hold invents no matter the condition outside. Like the Aquatic Center, they lack light penetration, and with the technology we have today, we can have light penetration in arenas and control for events.

Architecture and Listening to Music

What I took from this section might be the smallest but most important. It is how to get your guest to live in all three dimensions at a musical event. And with changing these sports-focused facilities to music entertainment venues, this is crucial. Xenakis does not like things that move or change; he believes richness lies with the arrangement of permanent things and events. I disagree with this belief when it comes to a massive stadium like Spiros Louis. If it is to be designed for one thing, it was designed wrong from the beginning. Greece doesn't have multiple major sports leagues to pull front to fill it, and each sport requires a different shape. Music Entertainment stadiums have been going up in Asia and have been more successful because they can be filled consistently and adapt to specific sports. Which I am aiming for with already existing forms. So when you stage and take and shape and sound panels can move to adjust for the quality, it will be all for the guest's enjoyment.

Xenakis's Big idea is floating islands or balconies to feel like they are in their own world and can see the show from every angle. He did add the island would look like they are floating or walkways are transparent. This is an exciting idea, and I can implement it into my design for Spiros Louis Stadium. When I am readjusting to music, this may be a new experience to add for people and grab attention. They can also double act for noise control. He also talks about how the invisible form we create is just as crucial as factual, which the islands will make. The human eye is much more cunning than we think and can sense the invisible forms' proximity from afar.

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Xenakis will continue to inspire me with knowledge of music, architecture, and structural techniques. The way he thinks out of the box pushes my imagination to find better solutions. While finding the best solution, he keeps function on the human in mind, and psychological effects design can have on a person or a community as a whole. And that is something I strive for. I am grateful Professor Anna Maria brought Lennis Xenakis to light. It has opened

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my eyes to new limits while understanding how music performs in places. I could write forever on his topics, but these are where most important to me.

City Design

Modernist, Traditional, Green and Systems Perspectives

I will be using this source to learn how to connect my site to the city and its people. Greece is a traditional city because of its history but its people keep moving forward so it needs a happy medium of modernity. I can do this by mixing in green design and different perspectives to make the people happy and the project successful.

Green City Design and Climate Change

As the Earth's temperature rises every year and Greenland's polar ice cover decreases, the coastal cities lose land. As the more ice melts, the more land is exposed to absorb heat, which accelerates the ice melting even more. It is inches, but if we continue the way we are, it will soon be

inches, and major cities will be lost. A significant factor to those effects, though, are the cities on the coast. It is where the first civilization settled down because of necessities. Those necessities of water, food, shelter, and protection can be seen by land-locked cities as well. Predictions of rising water by 2050 are 0.4 meters to 0.7 meters. The levels are higher than the prediction, though, in the measuring areas. Scientists explain that some areas will get lower where the water is colder, while where the water is warmer where the water will rise. If the air temperature rises more than two degrees Celsius, the world will enter parallel unknown human history.

Cities like New Orleans and New York have started to protect themselves by creating an infrastructure that lifts the city. New urban plans and buildings practically lift the city to give it some more time and room for the water to come up and emergency weather like Hurricane Katrina and the floodwaters it caused. However, this only puts a bandaid on the problem and does not fix it at the source. We might not be able to reverse the damage we have caused by emitting greenhouse gasses, but we can slow it down.

One solution cities have come up with is becoming "Garden Cities" or, in other words, landscape urbanism. Its definition is when a landscape takes architecture as the basic building block of contemporary urbanism. Ebenezer Howard is the founder of this method, and he used a different term for it called "town-country," which was not popular. He was the critical factor in connecting public parks, suburban development, and affordable cottage living in a green setting. This will be important for my project as I add public parks and green space to my site surrounded by residential living, small industrial, and a college campus. The funny thing is Ebenezer Howard was not an architect, landscape architect, or planner, but he was a shorthand reporter. He found an interest in the creation of greenbelt cities and ran with his ideas. Great examples of this are in London, with their massive gardens lying throughout the city; it might not be to the scale Howard had imagined, but the public parks are a breath of air in a busy city like London and help break up the districts.

That was when cities were developing, and now we are stuck with the land we have and need to find new ways to be green without expanding. How do you meet the need of today's crazy wants and necessities without compromising the future? Ian McHarg is a landscape architecture professor and was the first to find the obvious answer that civil engineering, planning, design, and financing were the reason for shortcomings when it came to the basics. They would move forward with a project without thoroughly check the erosion and other consequences the design might cause to the site and the environment. Ian McHarg would map out the areas for the project and construction to assess their along shorelines, a hillside with slopes, and wetlands or flood plains. This advances the field into a new dimension. Site analysis was more accurate and helped find proper solutions when finding problems ahead of time and could even predict problems for the future and prevent them. It also helped cities create and select local zoning codes.

An important factor when thinking about planning for these cities and bringing green is to have the natural layers intact. What that means is under the building, the natural environment like slopes and drainage are still there. Along with green spaces and the tree and other vegetation, the native vegetation is essential to the environment! The existing soil , vegetation, and buildings will all need it to keep the erosion minimum. Also, reusing buildings that already exist and may have historical context also lies in this category. Many organizations have made up to lead this process, so it is done right. A designer can get certified in almost all of them so they can submit and label their project for an officail green status. Some of the organizations are US Green Building Council (USGBC), the American Institue of America, and LEED (Leadership in Energy and Environmental Design). LEED will be the most prestigious certification your design can get at three different levels, and you have to take an exam to be certified yourself

Take Aways

With my three sources, I have the bases to dive into my design process. I will know how to pick out materials and organize new space in the site's renovation. Also, doing the least amount of damage has always been important to me when design, so green city planning has helped with that.

When I pick my sound plates, multiple materials might have to be used. This selection process will depend on where they are placed in the stadium, what kind of event it is, and what time of day and year it is. The placement will depend on what needs to happen with the sound wave during the event. Does it need to be softened or redirected back down for people to here, and how far apart do the plates need to be from each other? That question also helps answer what material needs to be used, hard or soft? These questions can all be solved with the charts and equations I have found along with simulation technology.

The Xenakis book has inspired me to move forward with my design process. Doing a rendition of the floating islands in the stadium piques my interest and can also double as a sound supporting system. Also, his view on how a compact city will affect my design in a miniature form. A compact city surrounds my site, and the site will only become more full, which moves into the next topic of designing with green in mind.

Doing a proper site analysis will help connect it to your project back to the city. Specifically, a green site that will be engulfed by a city. It will also help protect your project and the Earth from future damage, and if there is, it will be minimal. You can get certified to know how to design the site and building to green qualifications now. LEED is the best one because he keeps updating the programs as they keep research for better solutions.

With all three of these in mind, my project will become more successful with the balance of technology and nature to bring enjoyment to Athens's people, whether it is entertainment or to relax from a hard day's work. At the same time, the complex makes a profit and gives back to the community.

Figure 40 Athens, Greece Olympic Sports Complex

The Site

Kifisias 37, Athina 151 23, Greece or Marousi, Northeast Athens, Greece

Narrative

We have all done it. We click the remote, and the screen flicks on with the picture of the massive stadium with rainbow colors with all the athletes lined up, ready to begin the games, and the torch is lit. We cheer on our countries or favorite athletes in the events throughout the two weeks and press the power button once more like the larger than life athletes say goodbye to their careers or until the next Olympics in four years. What happens when the athletes, spectators, commentators, and viewers at home are no longer there or watching? More than five Olympic stadiums have been deemed abandoned after the Olympic Games they hosted to be barely touched again to the point of demolition.

I chose to do the 2004 Athens Olympics because it is recent enough that the site will still be usable, and I am a professor from Greece that is advising me to answer any questions I have. The complex I went with is the leading sports campus that houses the Main Main Stadium, Olympic Athletic Center of Athens (O.A.K.A.), or Spyros Louis Stadium was its name before it was renovated for the Olympics. The main stadium had the most money spent on it and is used the least on this campus.

The next reason is the potential the site has to benefit the community if it was renovated from the ground to the facilities. The site looks like a wasteland; there should have been grass or some vegetation; there is gravel. The fountains have not been filled, and the facilities do not have a matching aesthetic. The citizens of Athens do not have the best impression because it cost billions of dollars with the promise of updating the congested traffic system and airport, but neither of those happened, and then the campus was closed. The only real plan for the facilities after the Olympics to bring in a profit was to charge for the facilities' tours. Nevertheless, when tourism went down, and Greece had their crisis in 2009, the tours were shut down, and the facilities were not taken care of.

I want to turn the concrete pad into a green, fun getaway in the city for the locals and visitors to enjoy. The citizen deserves it, and so does the site.

Site Analysis

Current Conditions:

Fountains are broken and empty.

None to minimal green areas. If there is, they are overgrown. Where there could be green areas is replace is a gravel like dirt.

Basketball Arena (Nikos) and Indoor Aquatic Center do not match the aesthetic. And the Basketball Arena's roof is rusting.

Some areas have already been redone for other uses. For example the smaller tennis stadium is now for volleyball, part of some parking lots are now a skatepark and a drive-in theater, and some public gyms have moved in.

The small building that houses the official business for the olympics like the dope labs, still stands but is completely run down. This is where you will now find some of the gyms and the young children education program.

Far from the beaches and the heart of the city.

There is a fire station on site.

A metro train and multiple bus stops are available just outside of or on the site.

The site is one of the furthest land locked complexes of the 2004 olympics.

The site is completely surrounded by residential, but there is two shopping center, a hotel, college campus, and music company across the ctreet or near by

Wall of Nations is no longer be functioning.

Flags of the Nations: Flag poles are left completely empty.

The surrounding community uses the grounds as a workout facilty. With the gyms that have take over some of the space and with all of the open area to run and walk.

Current site video
QR Code

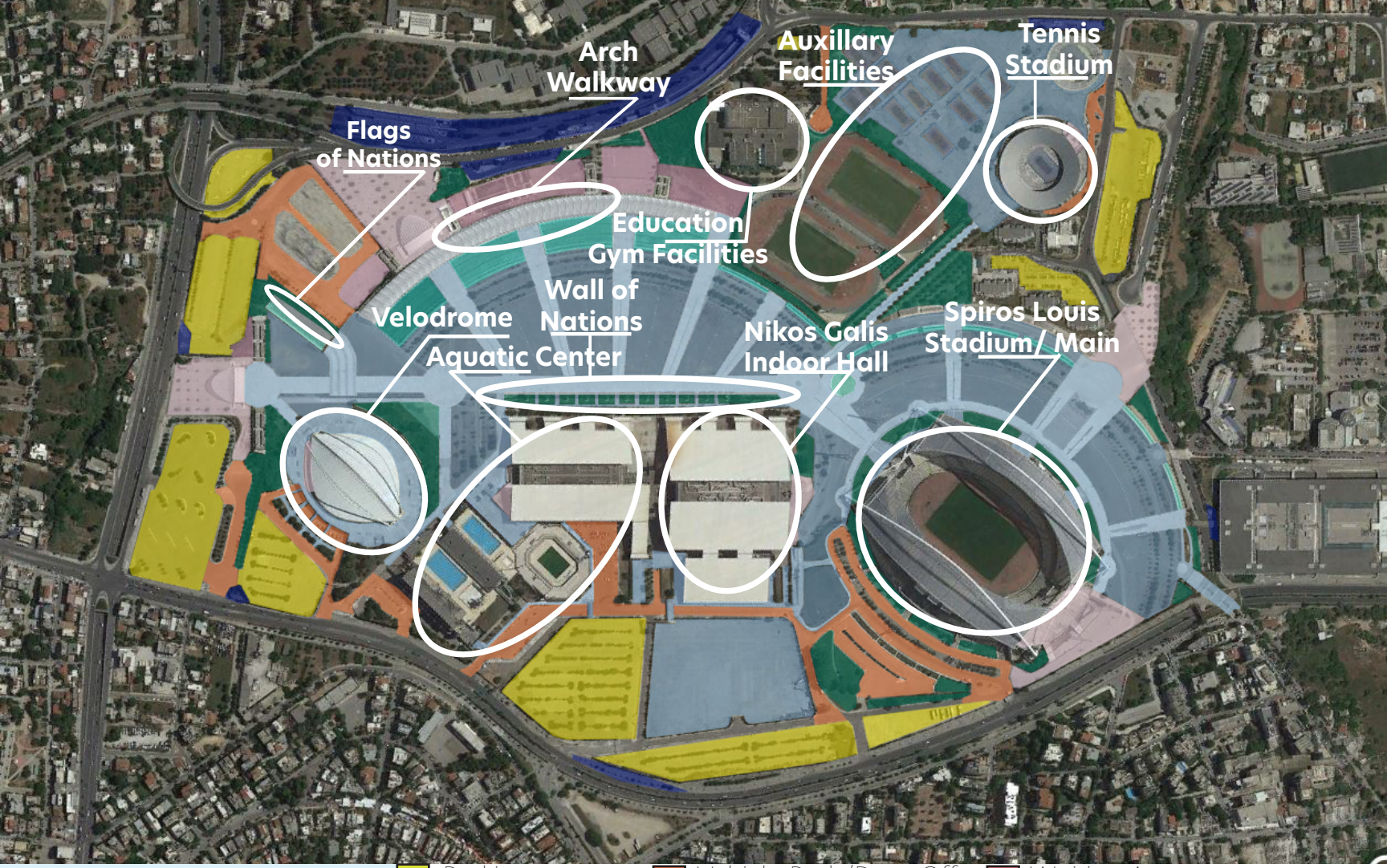


Figure 41 Site Function

Parking
Vehicle Path/Drop Off
Waiting Area
Pedestrian Path
Empty Space
Entrance
Green Space
Fountains/Ponds
Public Transportation

Site Function

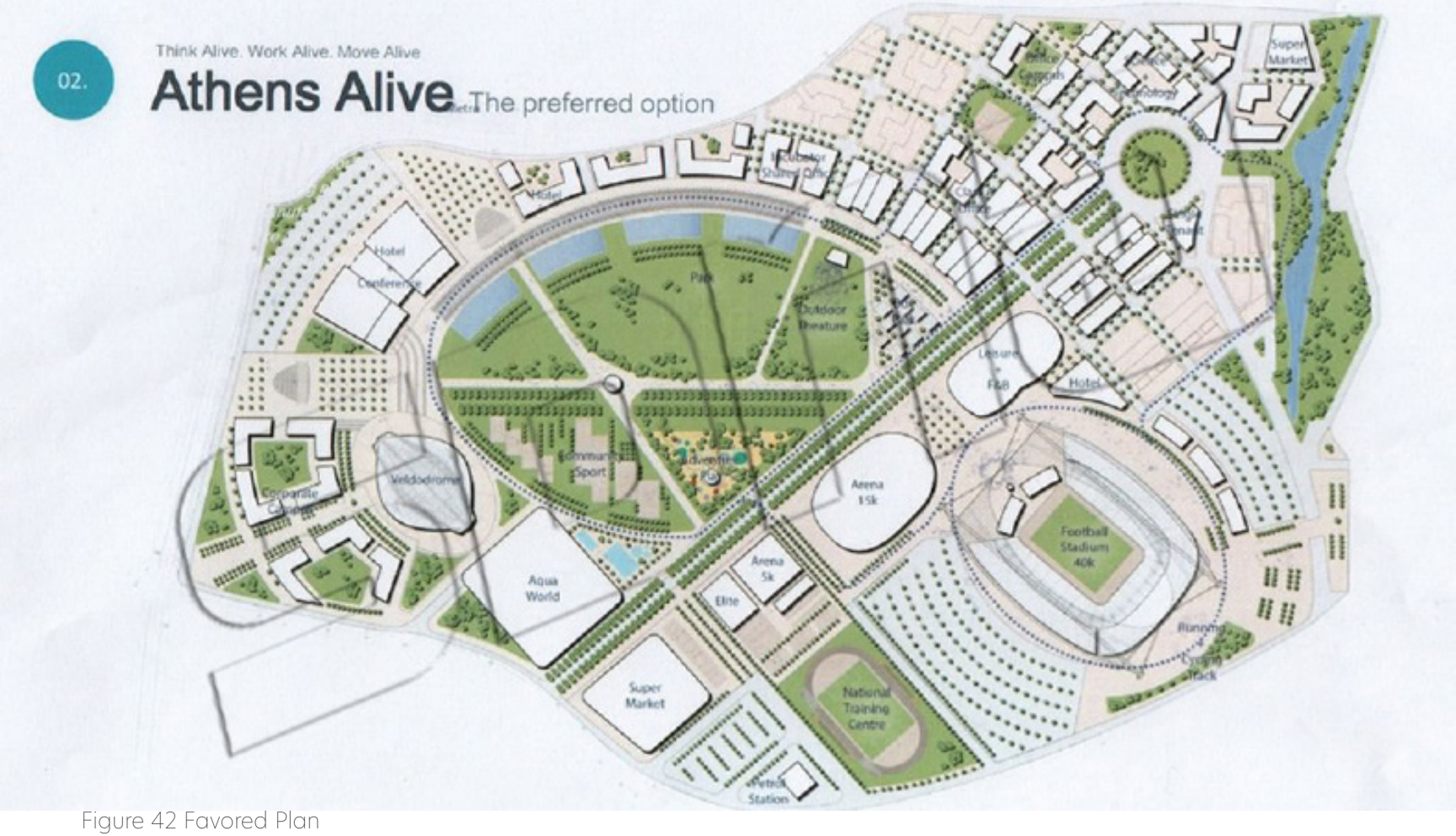
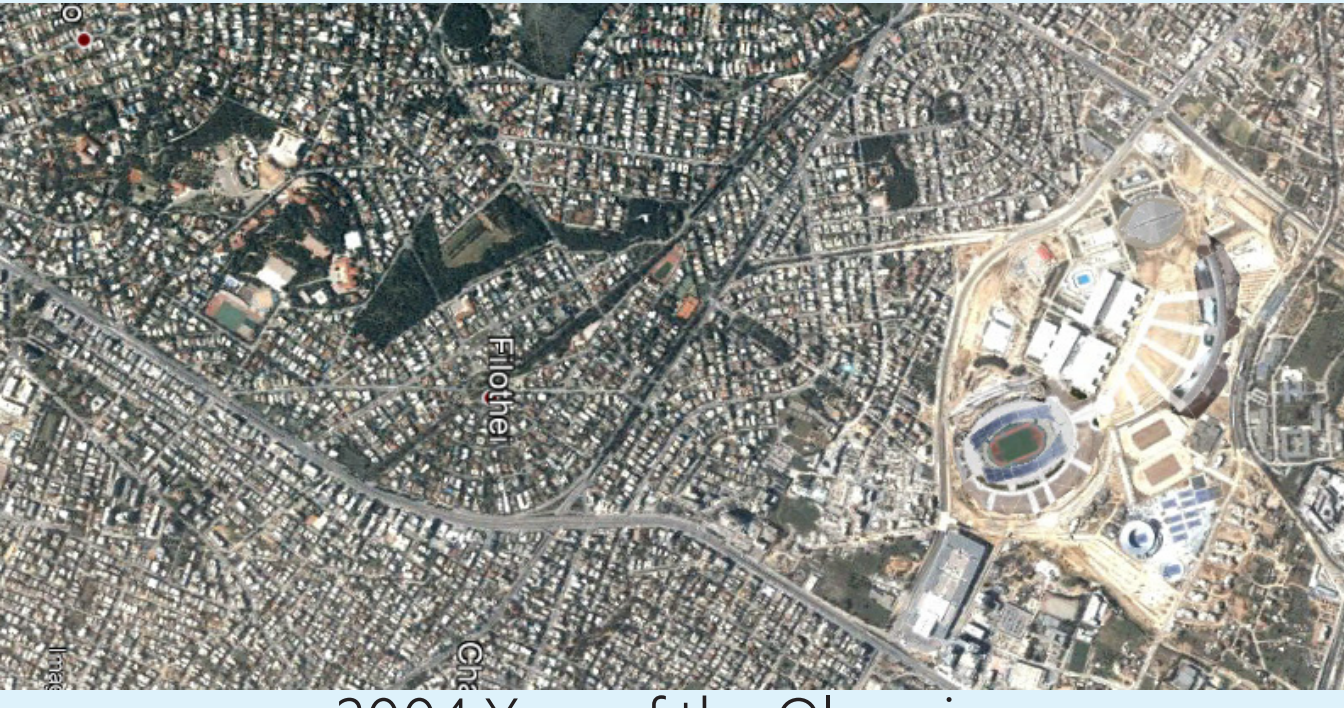


Figure 42 Favored Plan

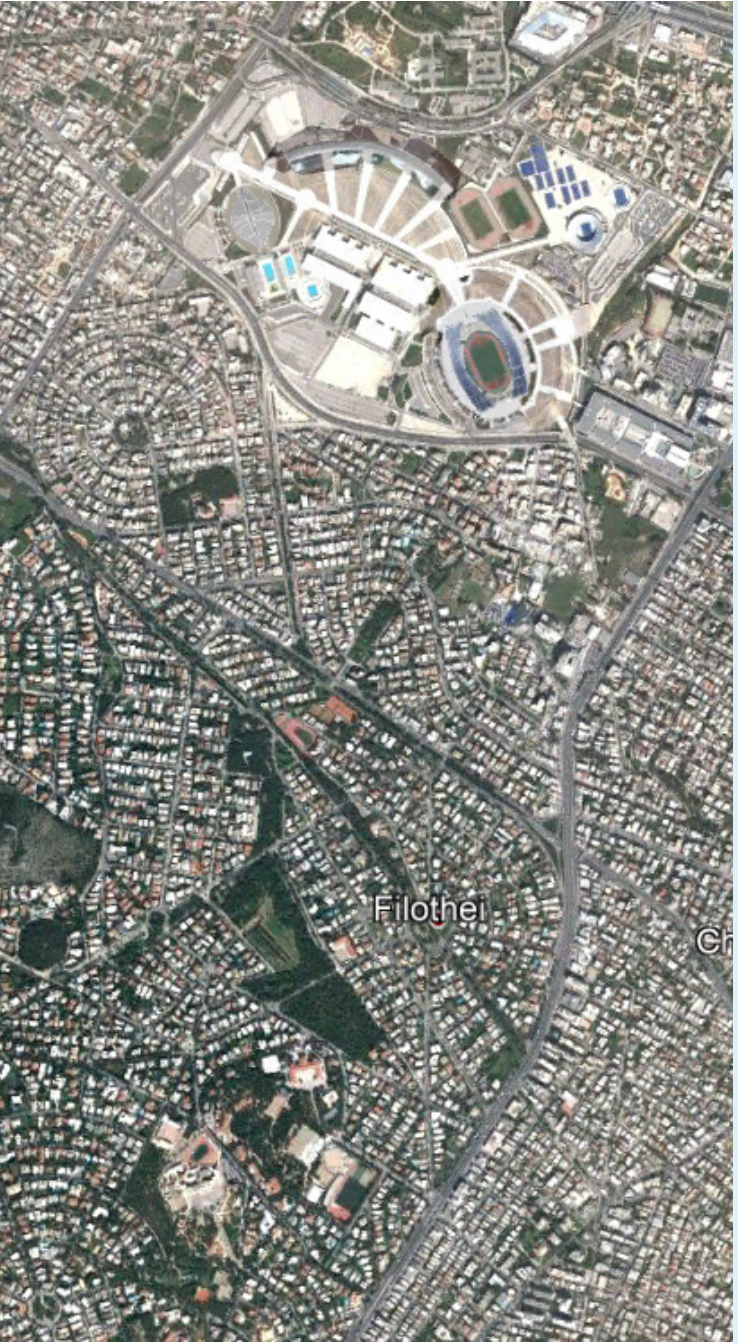
Athens Alive was the favored plan by the people of Athens, and as you can see, it was not followed in the slightest. Spiros Louis and the Velodrome Stadiums already existed, and the plan was to build around them. The Tennis Centre was not even supposed to be apart of this complex, but it needs to be because of lack of land elsewhere. Only one auxiliary field was designed, and the addition of the Nikos Galis Indoor is not close to where it was imagined to be or the shape. The green area barely existed on the executed plan, along with the chaotic symmetry that actually works . Instead parking lots and extra fields and tennis courts took over space.

2001 Site Renovations for the Olympic begins

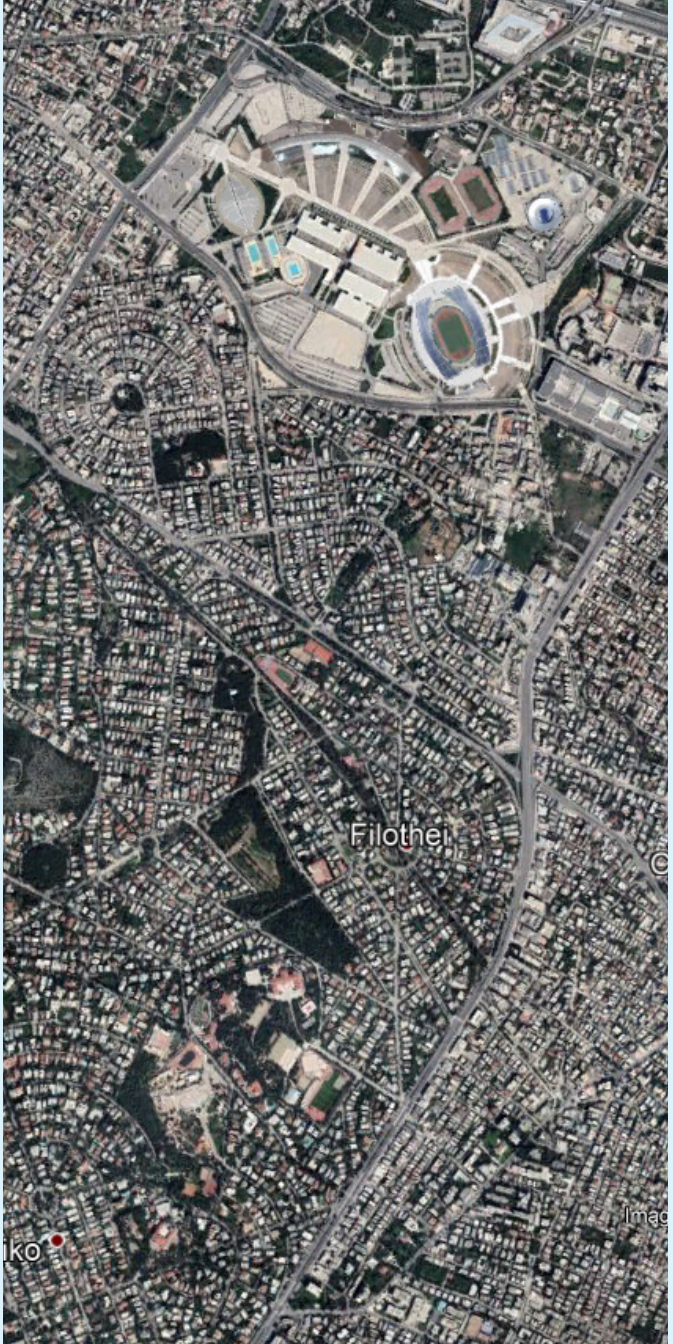
Figure 43 Site Time Lapse



2004 Year of the Olympics



2010 Post Olympics



2020 Post Olympics

C l i m a t e

The climate is pretty mild in Greece year-round. Average temperatures range between 27 degrees Celsius to 10 degrees Celsius, and precipitation's range is 63 millimeters to 6 millimeters. Wind speed doesn't reach above 7 meters per second on average. The people of Athens and the visitors will usually have pleasant days throughout the year. The wind's path is charted below. On the site, winds will come from the North most of the time and the east the least.

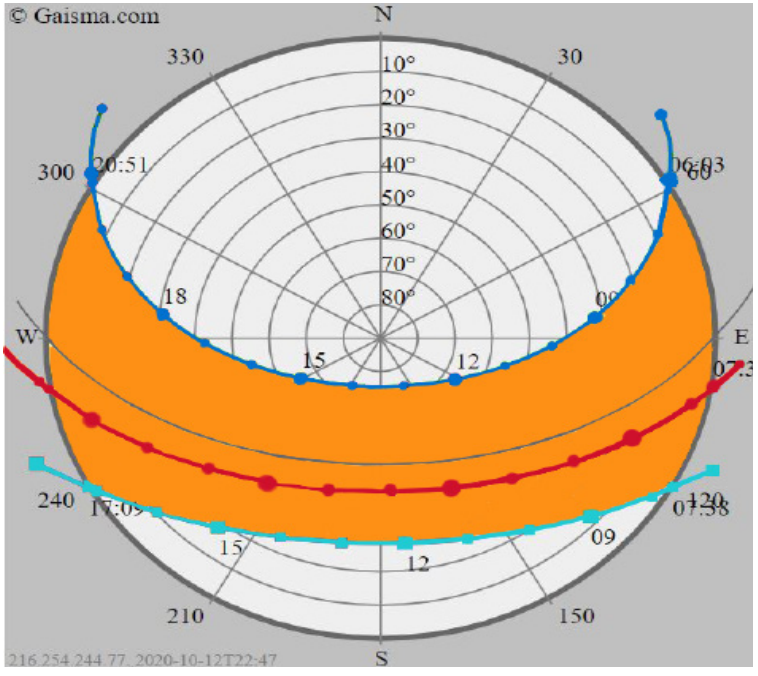
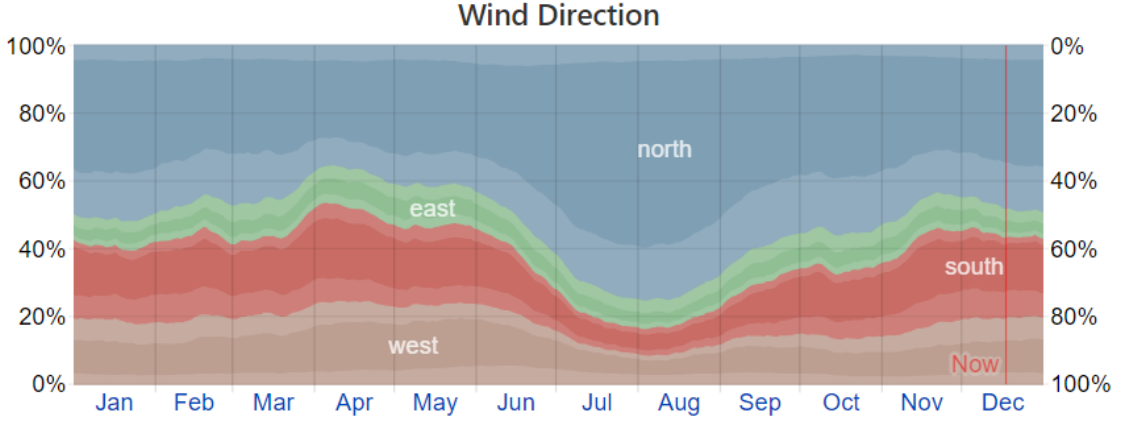


Figure 5 Sun Chart
Tabel 8 Wind Direction



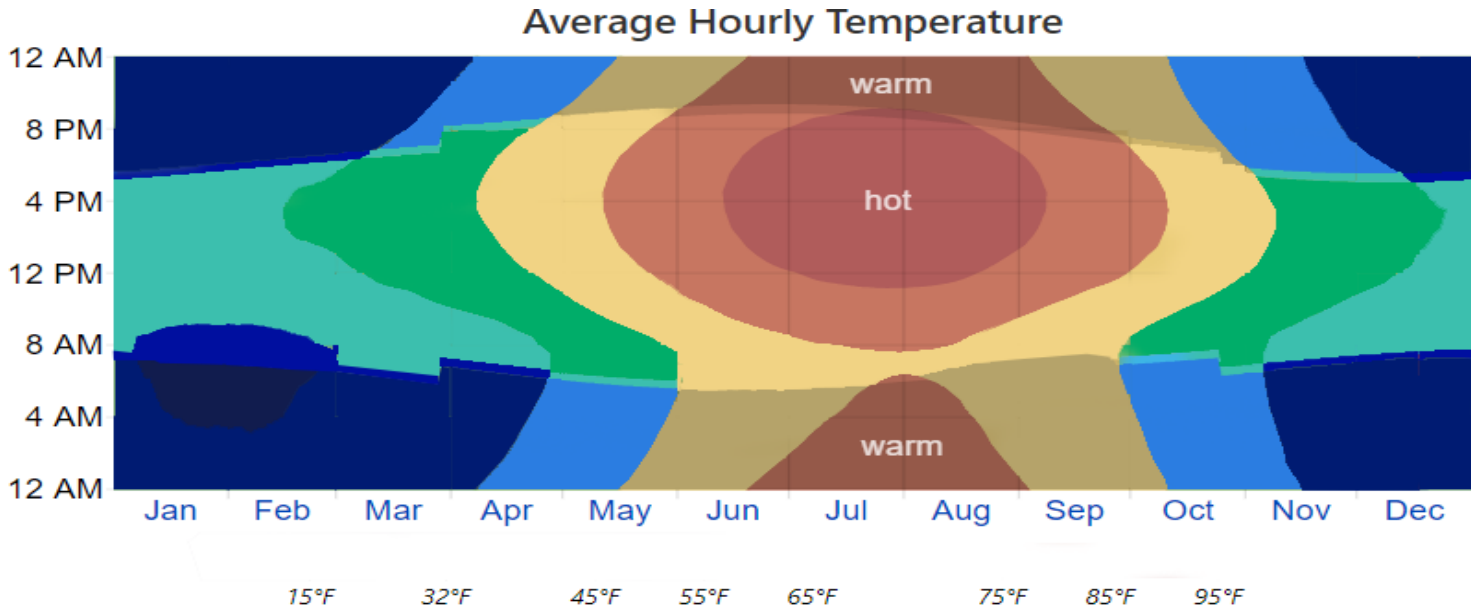


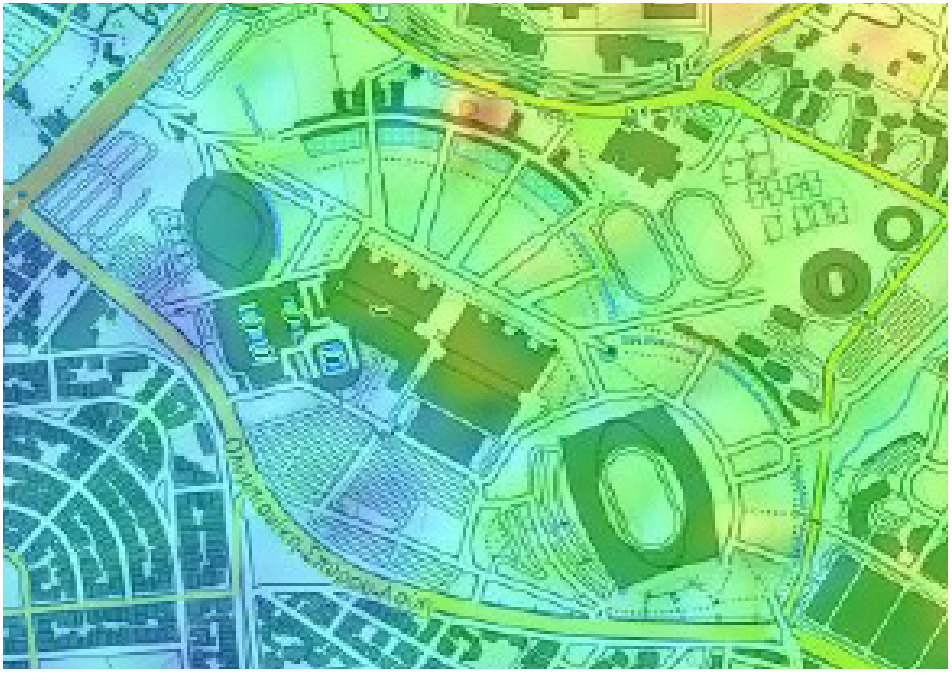
Table 9 Temperate in throught the day and months.

Table 1 Over all Climate Chart

Variable	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Insolation, kWh/m²/day	1.83	2.56	3.68	5.36	6.78	7.91	7.83	6.98	5.35	3.32	2.06	1.57
Clearness, 0 - 1	0.41	0.43	0.47	0.55	0.62	0.69	0.70	0.68	0.63	0.50	0.42	0.38
Temperature, °C	10.30	10.14	12.11	15.99	20.66	24.93	26.82	26.67	23.88	19.68	14.98	11.48
Wind speed, m/s	7.16	7.47	6.34	5.48	4.96	4.66	6.02	6.10	5.42	6.01	6.47	7.02
Precipitation, mm	63	54	50	31	23	12	6	6	13	55	64	80
Wet days, d	8.5	9.2	8.2	7.6	5.1	2.1	1.4	1.7	1.7	5.8	8.7	9.8

Topographic Map

The site is level ranging from 169 to 159 meters with one area within the 213 meters area but human-made—the site slant to the south for drainage. Which also goes with the terrain's natural slope.



232
229
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205
201
196
192
188
183
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174
169
164
159
153
147
141
131

Figure 7 and 8 Topographic Map of Athens, Greace and the Olympic Sports Complex-Table 2 Scale (Meter)

S o i l s

Soil surveying started in Greece in the 1930s to ensure the land's safety used for construction and other projects. The site is has a Cambisol, which is an older soil and brown. This soil is transforming into clay with a carbonate removal process that happens naturally. Athens did its first chemical oil testing in 2014. It helps predict erosion from urbanization. They have been able to control the patterns of Pb, Zn, Cu, Cd, Sb, and Sn after doing their research and testing. The topsoil exhibited an enormous amount of geogenic PHEs.

Figure 44 Cambisol Sample

Table 10 Cambisol

Table 1 – Granulometry and organic matter (OM) of typical Dystrophic Tb Haplic Cambisol (CXbd) from the Lavras, MG region.

Horizon	Clay	Silt	Clay + Silt	Sand	OM
	----------	----------	-g kg^{-1}	----------	----------
A	405	114	519	481	33
Bi	457	197	654	346	9
C	195	356	551	449	2

Granulometric analysis according to Embrapa (1997) criteria (fast dispersion in a cocktail shaker type agitator + NaOH 1 M).

Performance Criteria

The wasteland that was once known as a beautiful Olympic Sports Complex is in need of a change. The people of Greece and Athens money was wasted on it because even the side projects of the airports and traffic systems to be updated were not followed through with. Now the outdoor pools cant be used and the stadium hasn't been used in years and is rundown. The site is trashed and is only used as a running track. These people need to be shown that their money can be put to good use and have a beautiful place to go and enjoy family, have a getaway, and entertainment.

The spacing of the added multi-use program will bring in an attraction to the complex that wasn't there before and help support it economically. This multi-use program will include shops from the middle to high-end brands. The range is because rent is high in Greece and they would be able to afford it on a consistent base. Restaurants and cafes will also be on-site for availability and give guests a place to sit and enjoy the new and renovated green spaces and fountains.

To help with the cost in the future the complex will be transformed to have a net-zero energy consumption. Using methods of solar panels to create its own energy, water pools to cool and heat, and shading devices to also help keep the heat down and the guest comfortable. This way when the complex makes a profit it can give back to the community and can give more by saving more.

The shading devices can also double as a sound adjustment system to help the stadium and the artists that perform there. This will make not only the artist better but the experience better for visitors because of the sound. Echoes will be dulled as they can be terrible in an outdoor environment, and shading and light shows can improve with the shapes of the shell.

Space Allocation

The space of the site could be used in a more profitable and enjoyable way. Right now the site is used for running and that is about it. What was once a beautiful grounds if run down. Retail stores and restaurants can be added in the open space to bring a profit, green areas will be substituted for some of the concrete grounds to make it more welcoming for families and then people at the cafe can still be in nature without being in it. Which is a truly Greek way of life. Two hotels will be place on opposite sides of and each one a different price point as well. One is luxury and the other is middle class but still nice and family-friendly. Parking lots will be placed ground to help with the congestion of the campus and to keep the cars out of sight and pedestrians safe. Higher-end stores and the luxury hotel will help pay for the middle-class retail and hospitality on the campus as well because the rent is so high in Greece.

Behavioral Performance

The behavioral patterns of the complex should change from using it just as a running course to also a place to shop, eat, and play for kids and adults. It can be a place to go and hang out, have fun, and relax with endless options. The site is underused to the point it is considered abandoned. The locals will want to relax and have some fun after a long day or week of work. Filled with greek traditions of food and music plus with today's mixed in to make a full circle. This site will give the locals a break from the tourists, though tourists are allowed on site it will be designed for the locals like it's their getaway hideout.

Psychological Impact

The wasteland will be transformed into a Greek multi-use complex where guests will want to be during the week and the weekend. It's a place for the family to have fun in the park or for people to enjoy a music festival. From there money going to waste because the complex was abandoned and under cared for, the renovated complex will give a place for everyone and will even give back to the community. The site will be more congruent with looks once the two indoor arenas get a facelift because they stick out from the other buildings on the site. The new buildings will keep the whimsical aesthetic as well when designing. The ponds and fountains will be filled to aid in relaxation by sight and sound of the water and light reflection. Music should be coming from the campus at all times, whether it is traditional or today's pop hits or rock to bring it to light. Proper sound systems will be a place for noise control and adaptation for events. Families will be welcome in the green space and parks to play on. The campus will be a getaway for everyone young and old, whether they are looking for a breath of fresh air or a little fun.

Space Allocation

	Square Meters	Percentage
Entrance Area	14,000	1.44%
Parking		
Above Ground	14,000	1.44%
Below Ground	20,000	3.08%
Olympic Complex		
Entrance Area	20,000	2.05%
Olympic Velodrome	27,000	2.77%
Olympic Aquatic Centre	220000	33.85%
Olympic Tennis Centre	20,000	2.05%
Nikos Goliis Olympic Indoor Hal	46000	4.72%
Outdoor Public Space	30000	3.08%
Waiting Area	8,000	0.82%
Bedrooms	15,000	1.54%
Customer Service	20,000	2.05%
Spyros Louis Athens Olympic St	110000	11.28%
Circulation Space	20,000	2.05%
Retail Space	80,000	8.21%
Commercial Space	40000	
Mechanical	40,000	4.11%
Parking	44,000	4.72%
Public Transportation / Bike sta	40,000	4.11%
Total	974,000	100.00%

Footprint of about 900,000 SM

Without blue prints to know total area.
This goes for all the centres.

Chart 6 Space Allocation

Space Metrix

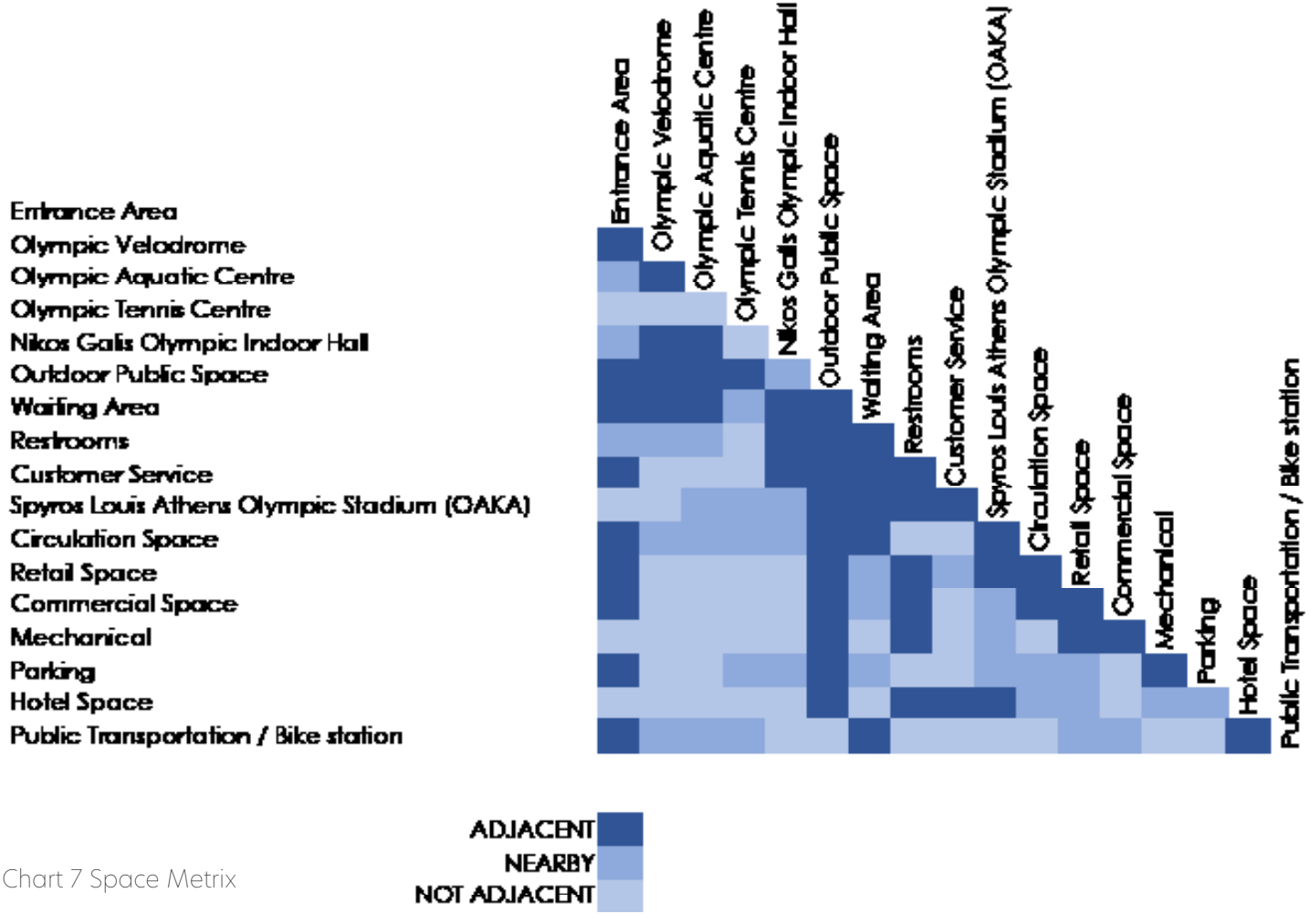


Chart 7 Space Metrix

Space Net

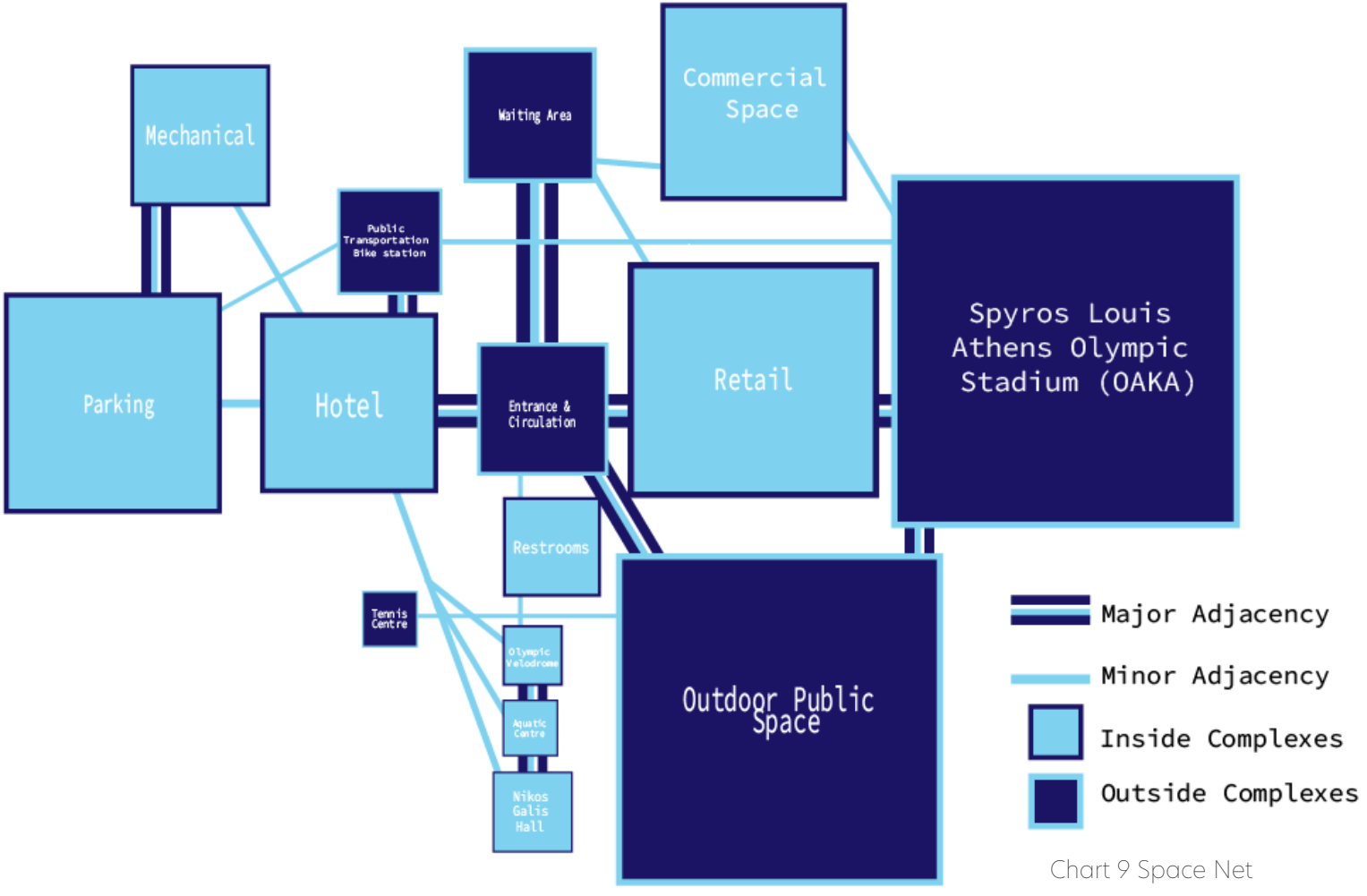


Chart 9 Space Net

Energy Consumption

The goal is to be net-zero. This will be done by producing its own energy through solar panels and looking for a way to cool and heat naturally. With the water pools to cool in the day and heat at night. By adding green spaces on the site and the stadium it will help keep the heat down. Another way is shade devices to keep overall heat down and keep guests comfortable.

Environmental Performance

The behavioral patterns of the complex should change from using it just as a running course to also a place to shop, eat, and play for kids and adults. It can be a place to go and hang out, have fun, and relax with endless options. The site is underused to the point it is considered abandoned. The locals will want to relax and have some fun after a long day or week of work. Filled with greek traditions of food and music plus with today's mixed in to make a full circle. This site will give the locals a break from the tourists, though tourists are allowed on site it will be designed for the locals like it's their getaway hideout.

Environmental Impact

This will help future Olympic Complexes or just regular stadiums and arenas to stay around for generations. Materials will to less waste as fewer stadiums are in need to be torn down and redesign because they need to accommodate more necessities than just sports. The overall mindset will change towards being able to build and tear down these massive complexes. During construction and after the project needs to do the least amount of damage as possible. Along with using materials like concrete that absorbs CO2 and other pollutants. Plants will also be put around the site to help cool it down and helo with erosion, all native of course to protect the species and the ecosystem.

Cost Pro-forma

Table 11 Cost: Pro-forma

Project Costs			
Land Acquisition	Land Area (sm)	€	910,283.00
	Land Cost ($/sm)	€	3.62
Demolition Costs	Demo-Building Floor Area (sm)	€	73,000.00
	Demolition Cost ($/sm)	€	12.00
Building Construction	Proposed Gross Floor Area (sm)		2420018
	Building Cost ($/sm)	€	450.00
Fees, Permits, & Misc (rate)	Fee Rate (%)		20%
Construction Financing	Construction Interest Rate		7%
	Construction Length (yrs)		2
Total Land Acquisition		€	3,294,314.18
Total Demolition Costs		€	876,000.00
Total Building Construction		€	1,089,008,100.00
Total Fees, Permits, & Misc		€	217,801,620.00
Total Construction Financing		€	182,953,360.80
Total Project Cost		€	1,493,933,394.98

Long Term Financing			
	Down Payment (%)		10%
	Mortgage Rate (%)		4%
	Mortgage Length (yrs)		30
Amount to be Financed		€	1,344,540,055.48
Debt Service/mo		€	6,479,573.72
Cost of Financing		€	838,713,145.95

Balance Sheet			
	Gross Floor Area (gsm)		2,420,018
	Leaseable Area (Efficiency)		90%
	Net Leasable Floor Area		2,178,016
	Lease Rate ($/SM/YEAR) - SEE NOTES	$	2,180.00
	Occupancy Rate		80%
	Tax Rate		20%
	Operating/Maint Cost (per GSF/Mon)	$	2.00

Assets/Income per month	**Total Rent/Lease** per Month	$	316,538,354.40
Liabilities/Expenses per month	Debt Service (from above)	€	6,479,573.72
	Operating Costs (total)	$	403,336.33
	Total Liabilities	$	6,882,910.06
	TOTAL Monthly Cash Flow	$	309,655,444.34
	Monthly Depreciation ('Paper Loss')	$	(4,598,034.20)
	Gross Profit	$	305,057,410.14
	Taxes on Gross Profits	$	61,011,482.03
NET PROFIT per month	**Net Profit (per month)**	$	244,045,928.11
	NET Profit (per YEAR)	$	2,928,551,137.36
	ROI % per year		196.03%

DESIGN PROCESS

Figure 45 Spacial Ideal Plan

Spacial Idea al Plan

90% parking underground.

Clean up existing green space.

Turn some of the concrete courtyard into green space.

Refurbish the fountains

1-2 hotels

Retail and commercial space

Restaurants and cafes

Tenis stadium to new indoor basketball stadium.

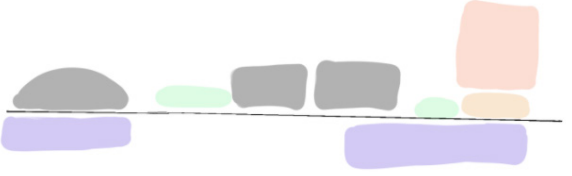
Updated the other stadiums for aesthetics.

Figures 46-49 Spacial Concpet of the Site


ENTRY
COM.
HOTEL
FOOD
RETAIL
GREEN SPACE
DRIVE IN
HOTEL


COM
HOTEL
COM
RETAIL
FOOD
RETAIL
GREEN SPACE
OUTDOOR AQUAT.
HOTEL


HOTEL
FOOD
RETAIL
PARKING




COM.
RETAIL

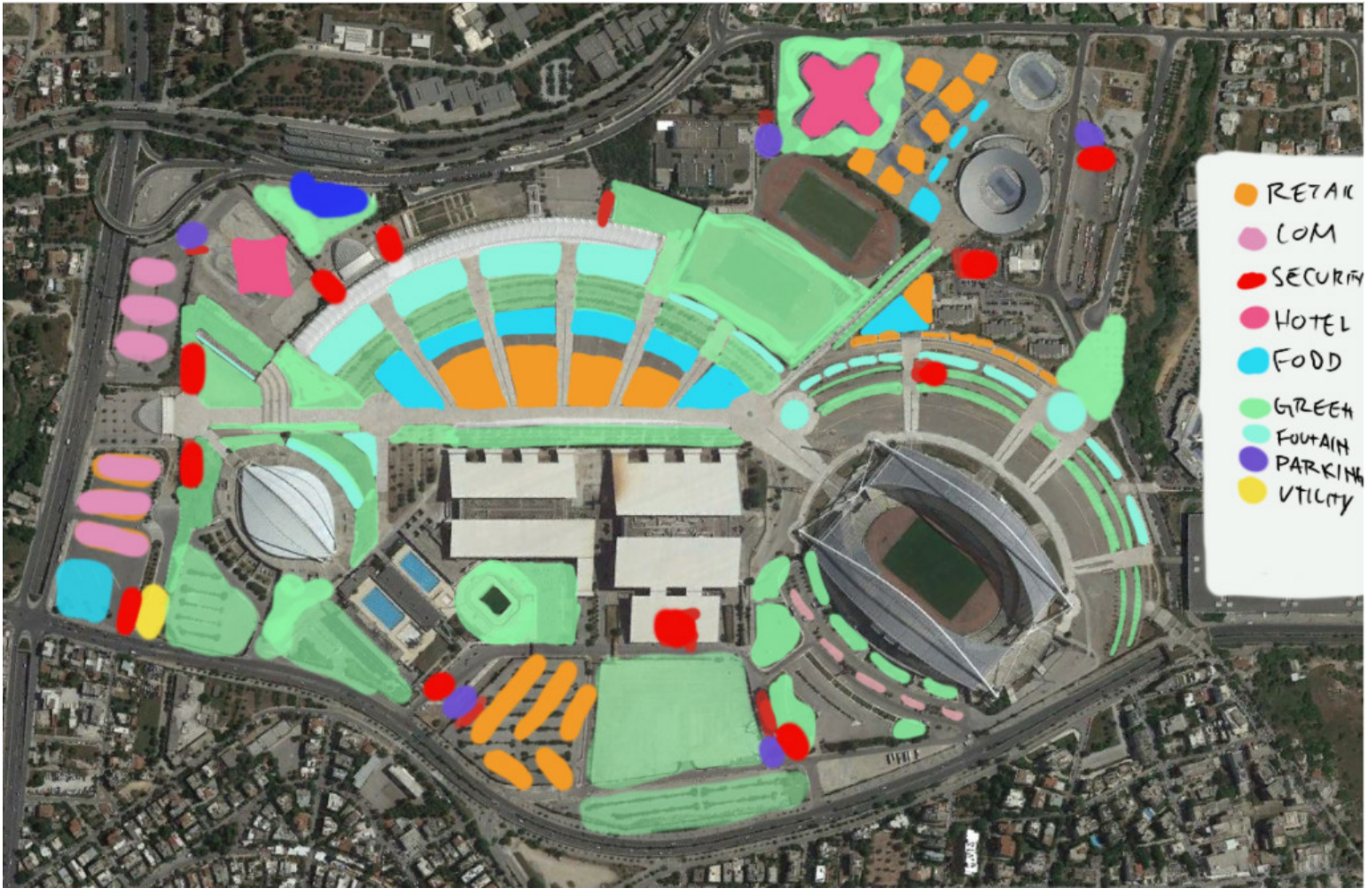
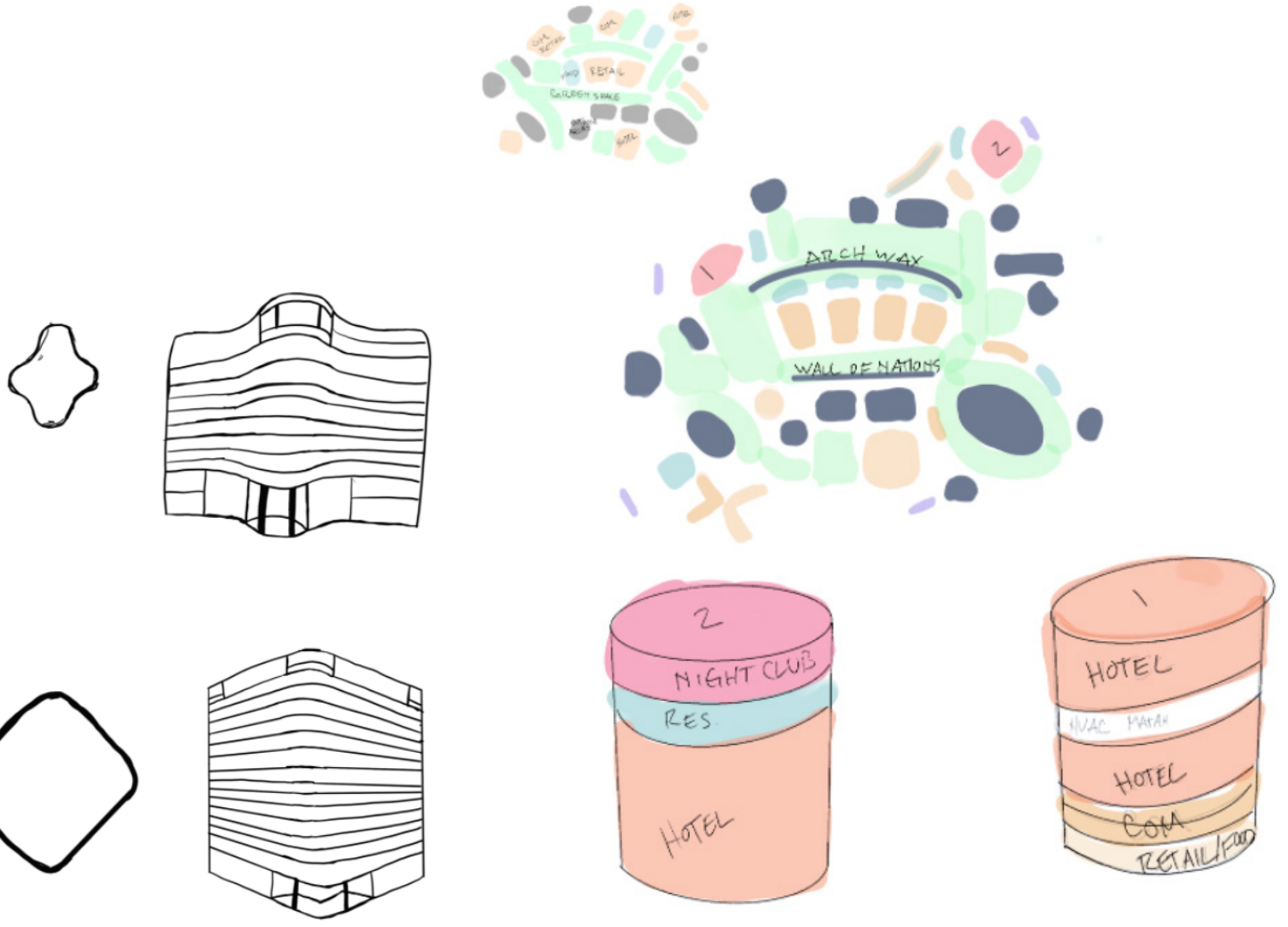


Figure 50 Spacial Concpet of the Site

Figure 51-52 Spacial Concpet of the hotels.



Schematics

Hotel

Biggest Stadium 75,000

The two stadium with most use are 19256 amd 15000.

Mid Class Hotel

Owner: Athens City / Greece
Proposed Facilities:
Guest room & Public Facility:
65-75% 43 *6=258 1=30 total 55 keys
A=LW Size : 200-275 sq ft = 60-84 sqm
Total:15480+8250=23730 sqm

First Class Hotel

Owner:City of Athens / Greece
Purpose Posed Facilities:
Guests and Public:
325-375 sq ft = 99-115 sqm
55 keys
200 = 99 sqm and 100 = 115 sqm
Total: 19800+11500= 31300 sqm

Support Facilities: (Kitchen stewarding, laundry etc): 10-15%
Hotel Administration: 1-2%

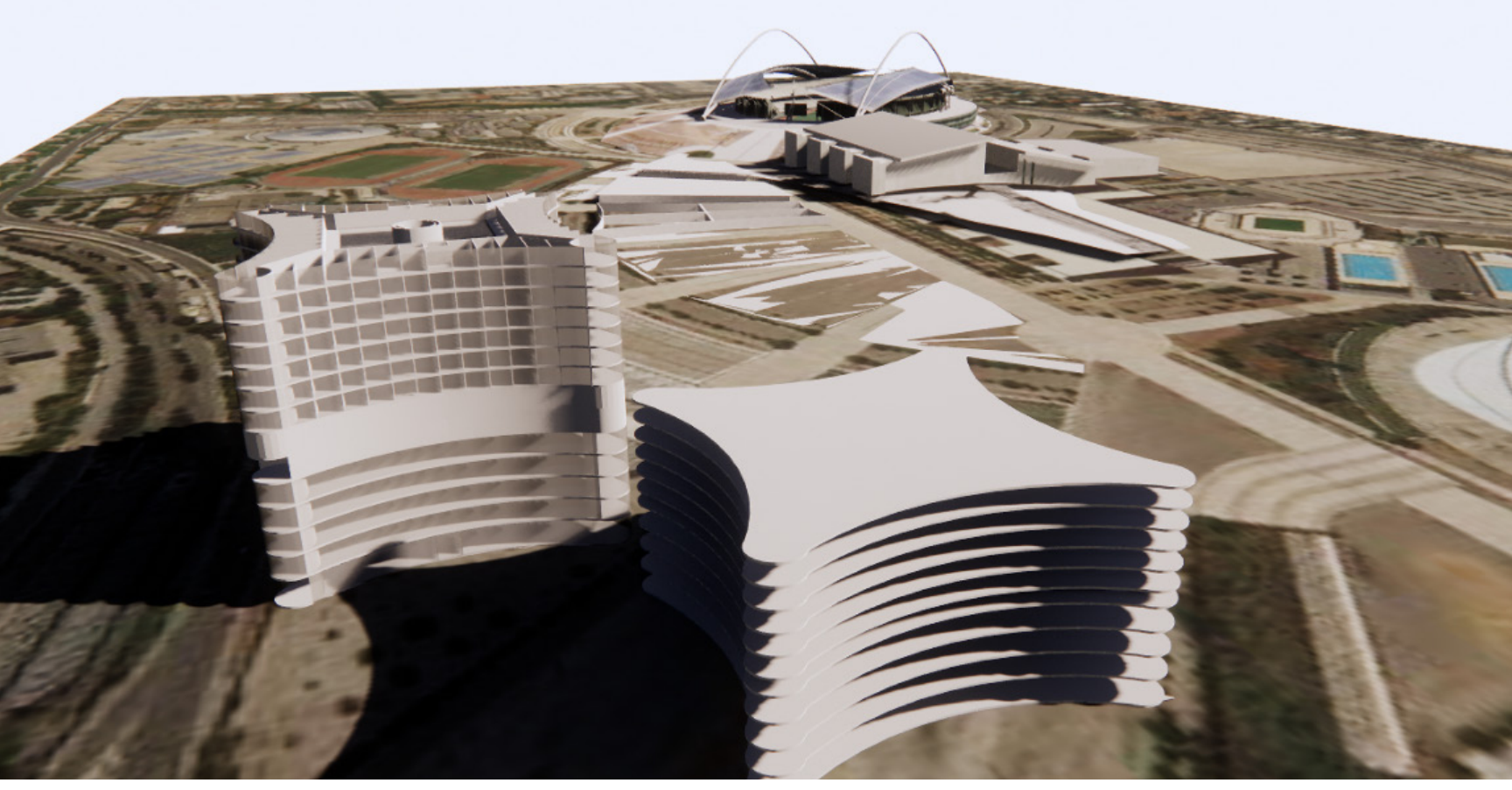


Figure 53 Concepts of Hotel Schmatics

HIGH-END

MIXED-USE

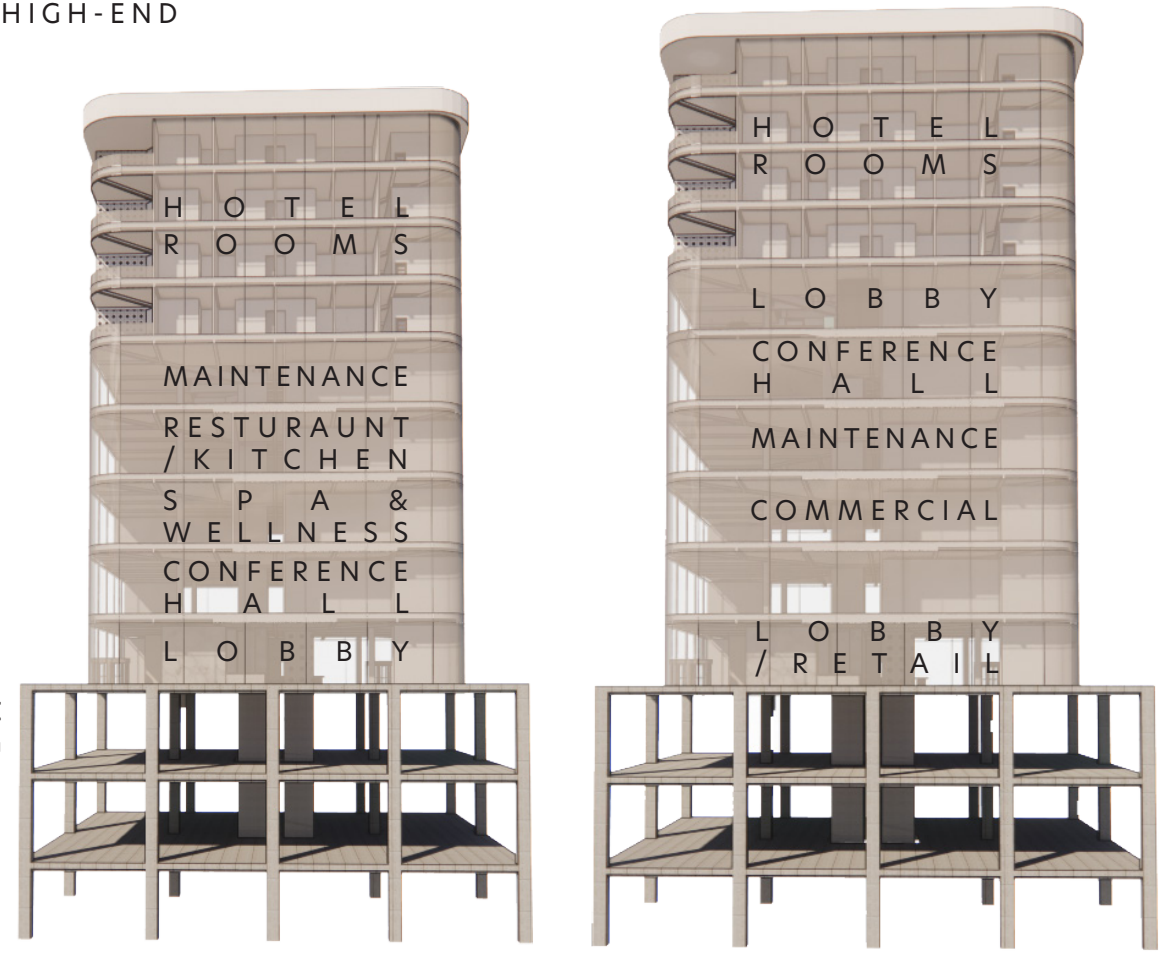
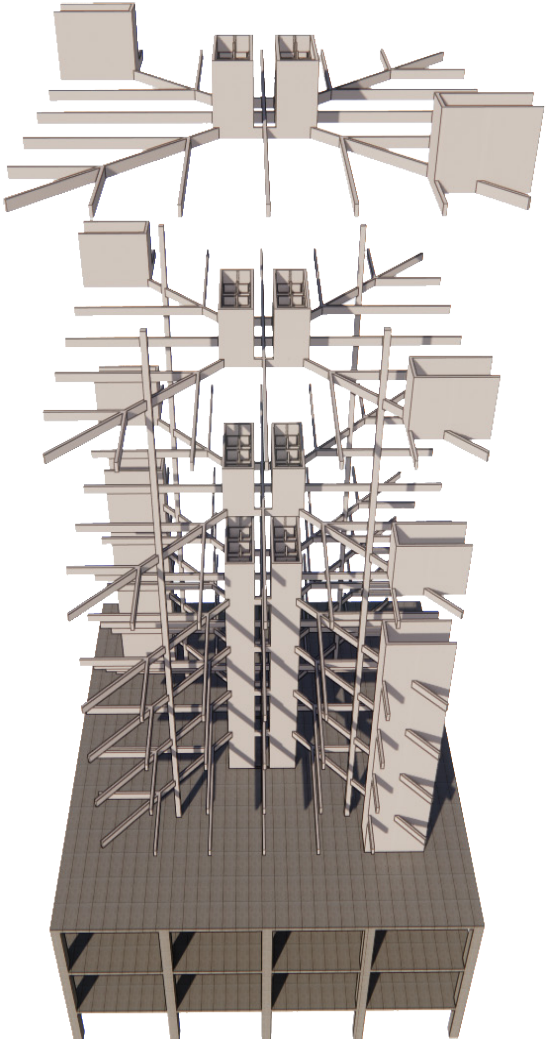


Figure 54-55 Hotel Schematics

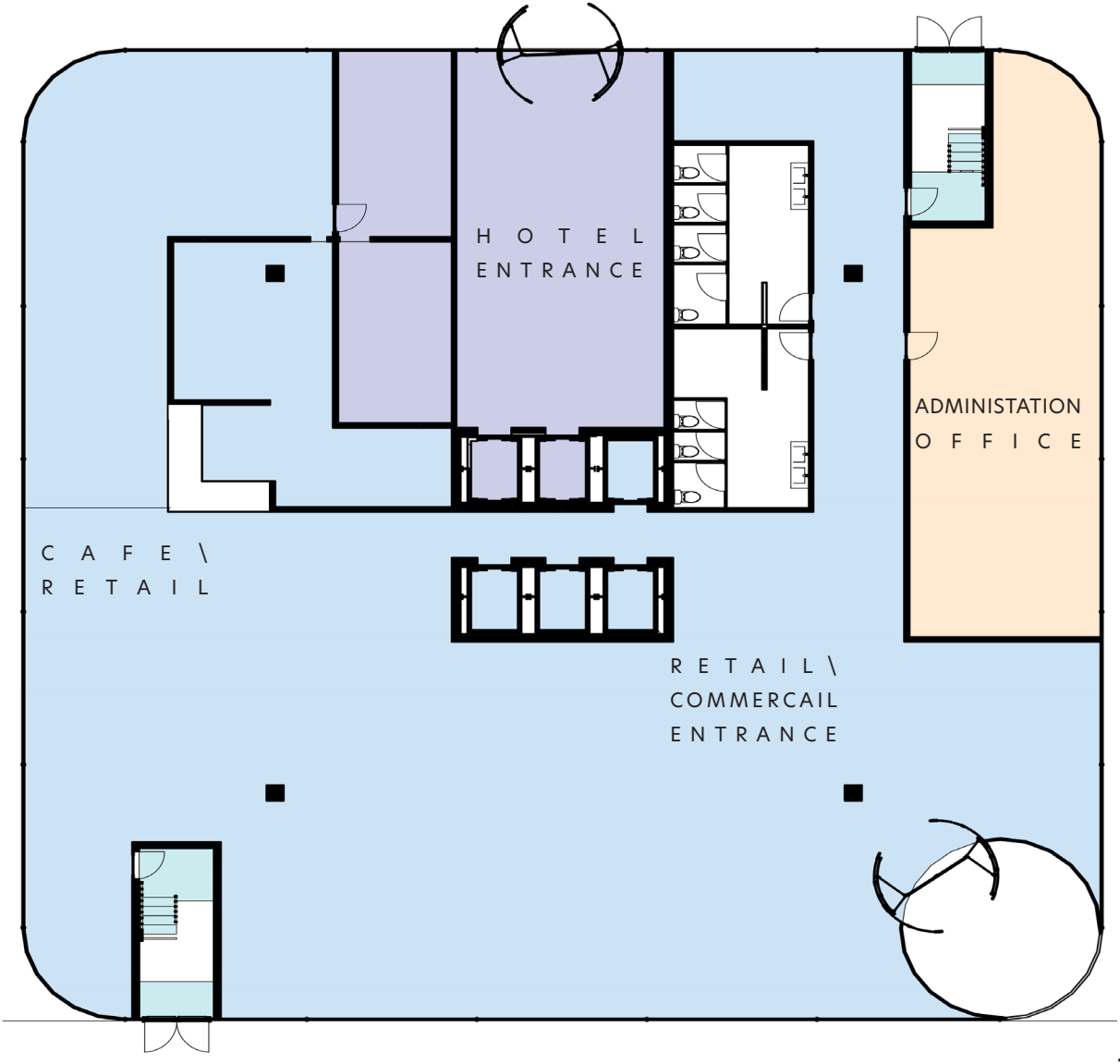
The hotel structure is design from reainforces concree slabs and beams.



MIXED-USE GROUND FLOOR

Retail, Commercial and Hotel Entrance.

Figure 56 Mixed-Use Ground Floor Floor Plan

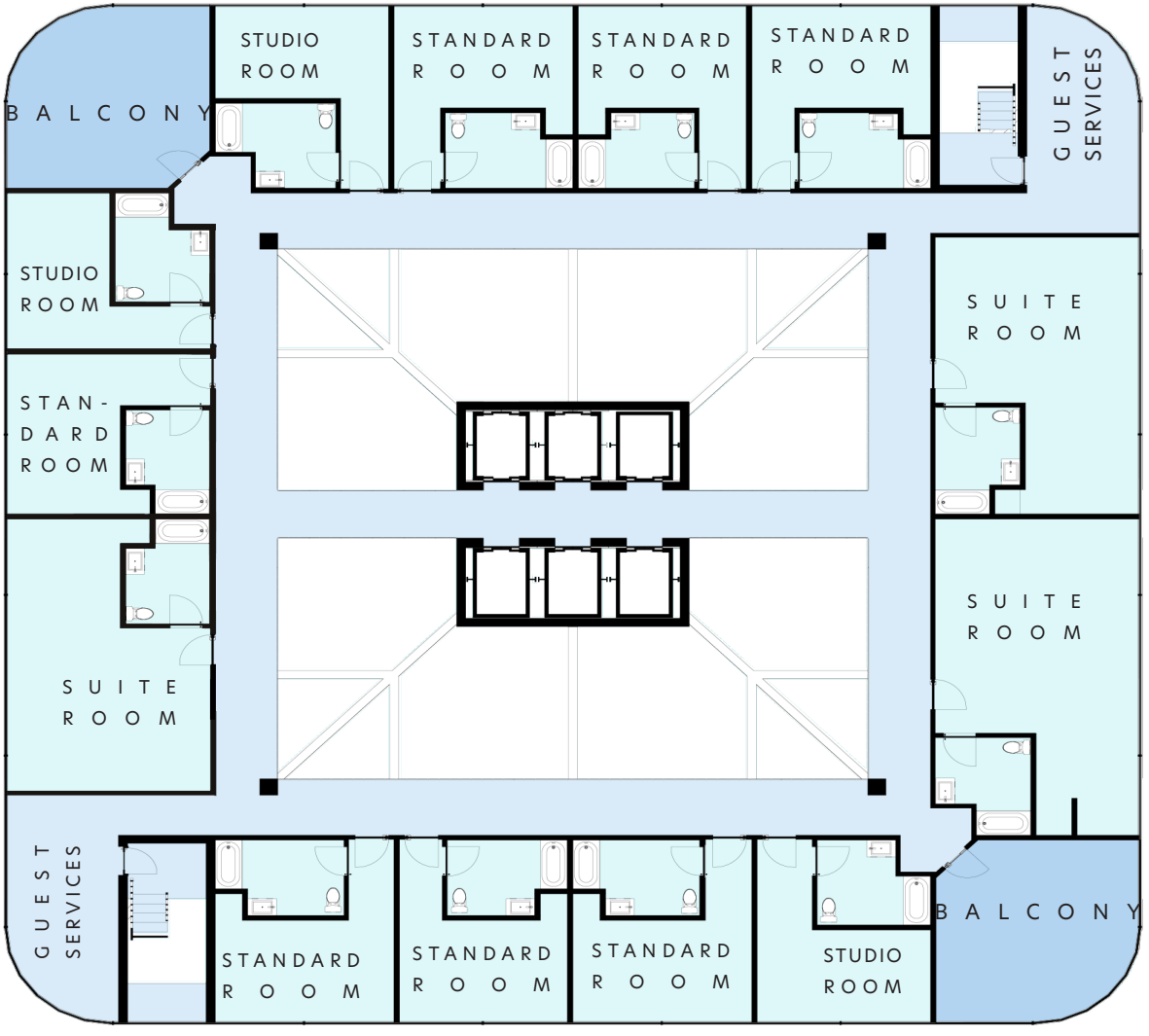

HOTEL
ENTRANCE
ADMINISTATION
OFFICE
CAFE \
RETAIL
RETAIL \
COMMERCAIL
ENTRANCE

H O T E L
R O O M S

55 keys

Figure 57 Hotel Rooms Floor Plan

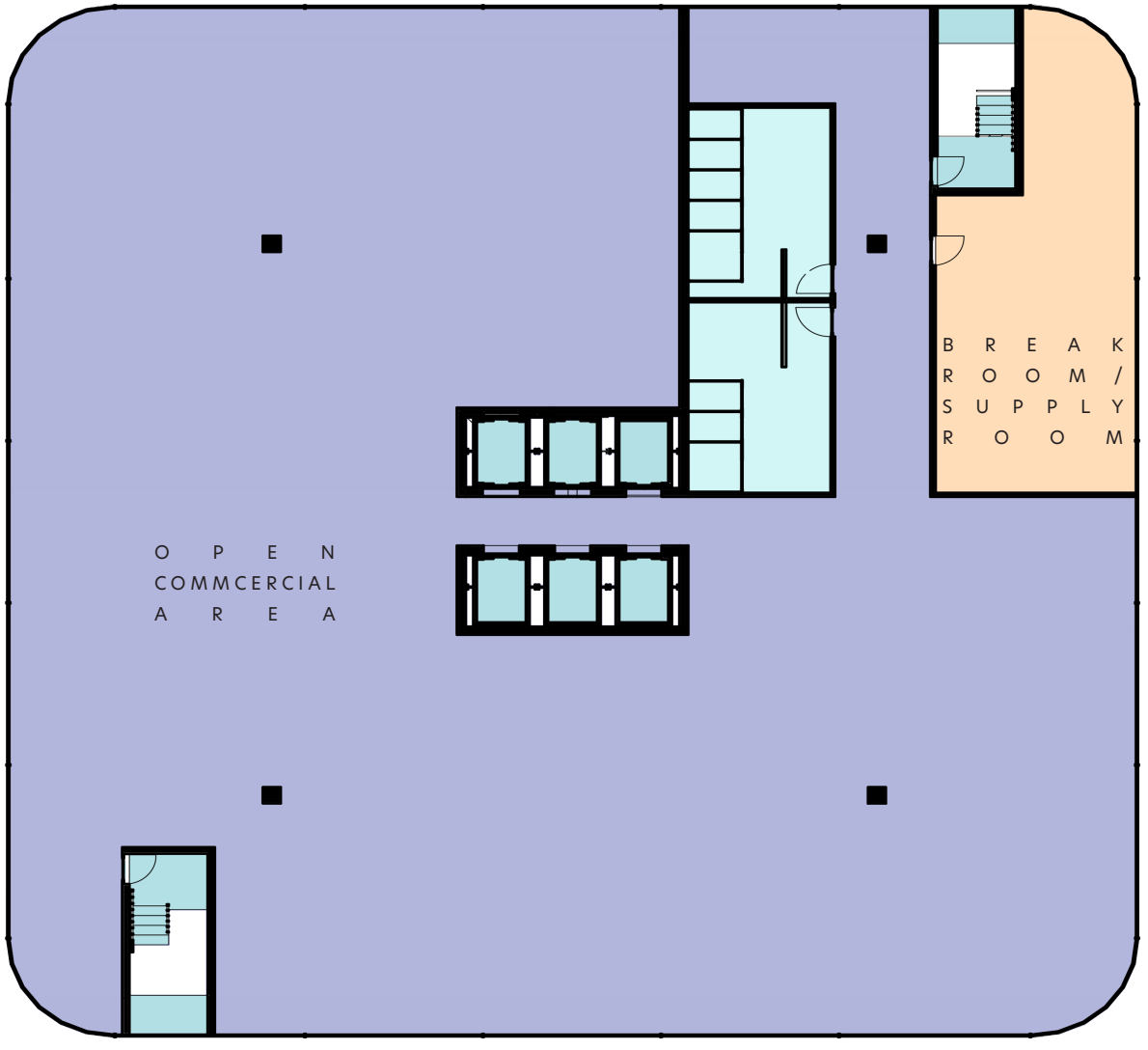
1 : 1 5


BALCONY
STUDIO ROOM
STANDARD ROOM
STANDARD ROOM
STANDARD ROOM
GUEST SERVICES
STUDIO ROOM
STAN-DARD ROOM
SUITE ROOM
SUITE ROOM
SUITE ROOM
GUEST SERVICES
STANDARD ROOM
STANDARD ROOM
STANDARD ROOM
STUDIO ROOM
BALCONY

COMMERCIAL

Figure 58 Commercial Floor Plan

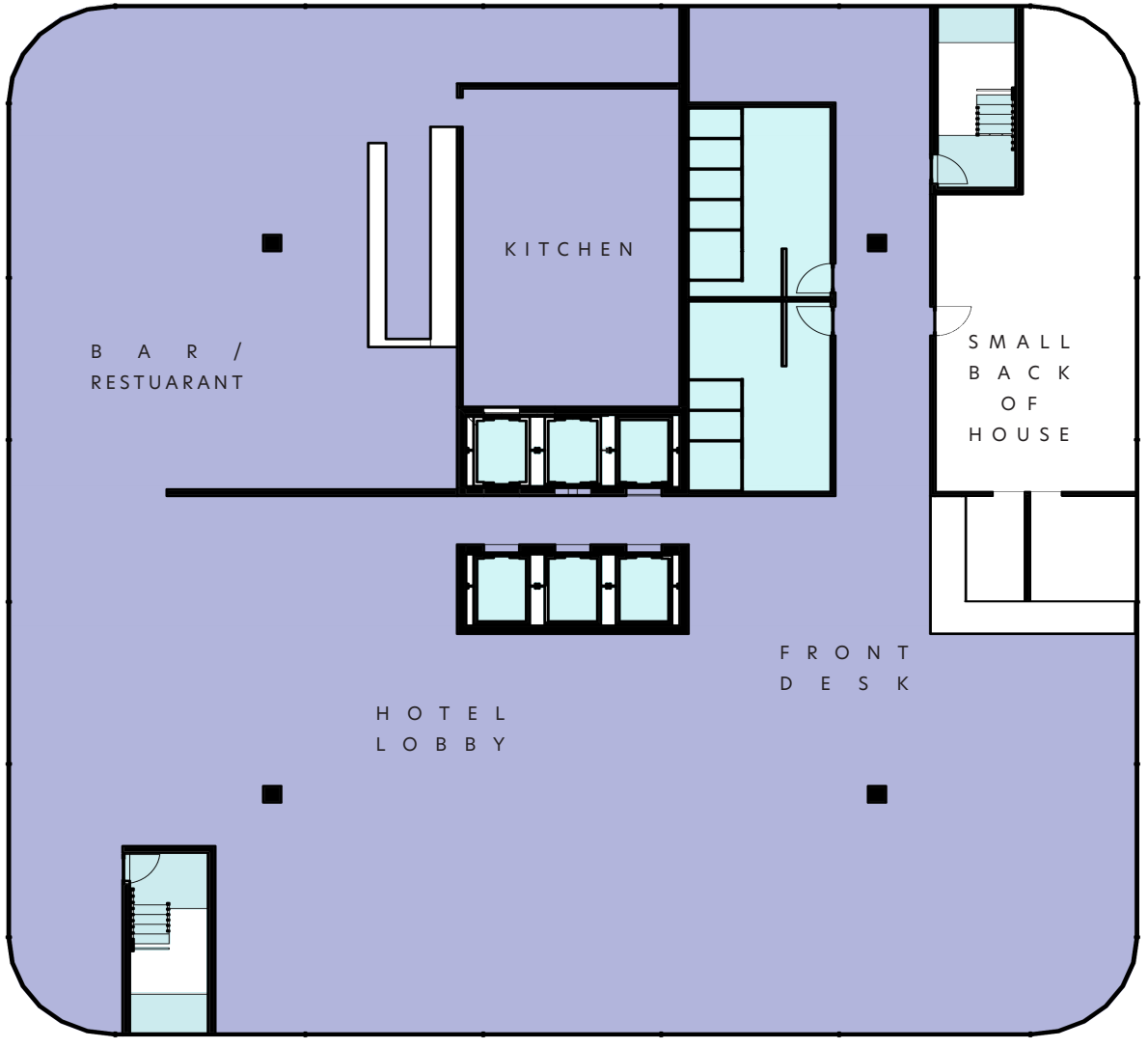
1 : 1 5


OPEN
COMMCERCIAL
AREA
BREAK
ROOM /
SUPPLY
ROOM

MIXED-USE HOTEL LOBBY

Figure 59 Mixed-Use Hotel Lobby Floor Plan

1 : 1 5


KITCHEN
B A R /
RESTUARANT
SMALL
B A C K
O F
H O U S E
F R O N T
D E S K
H O T E L
L O B B Y

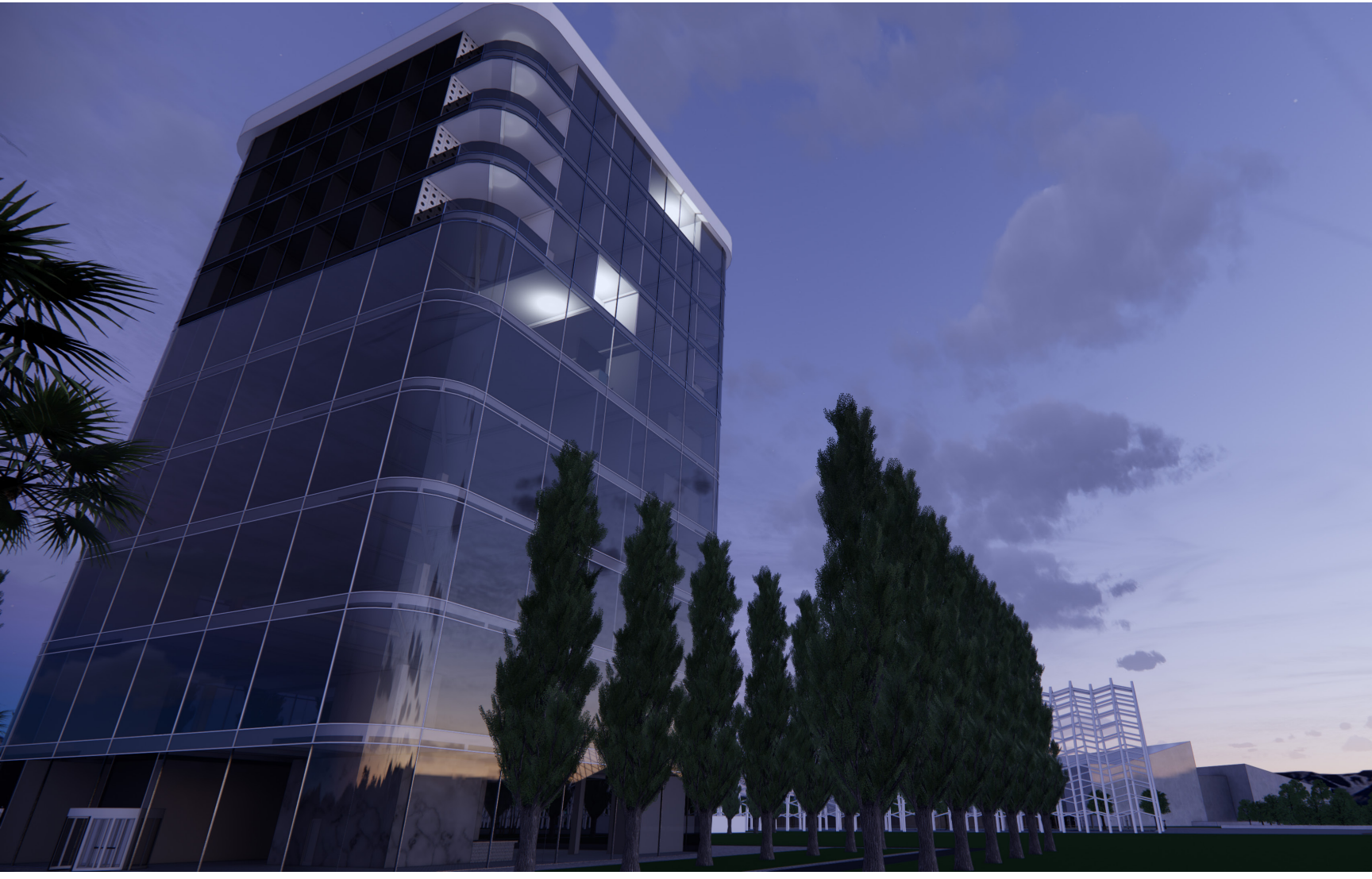


Figure 60 Hotel Renderings

R e a t i l

Phase One Reatil

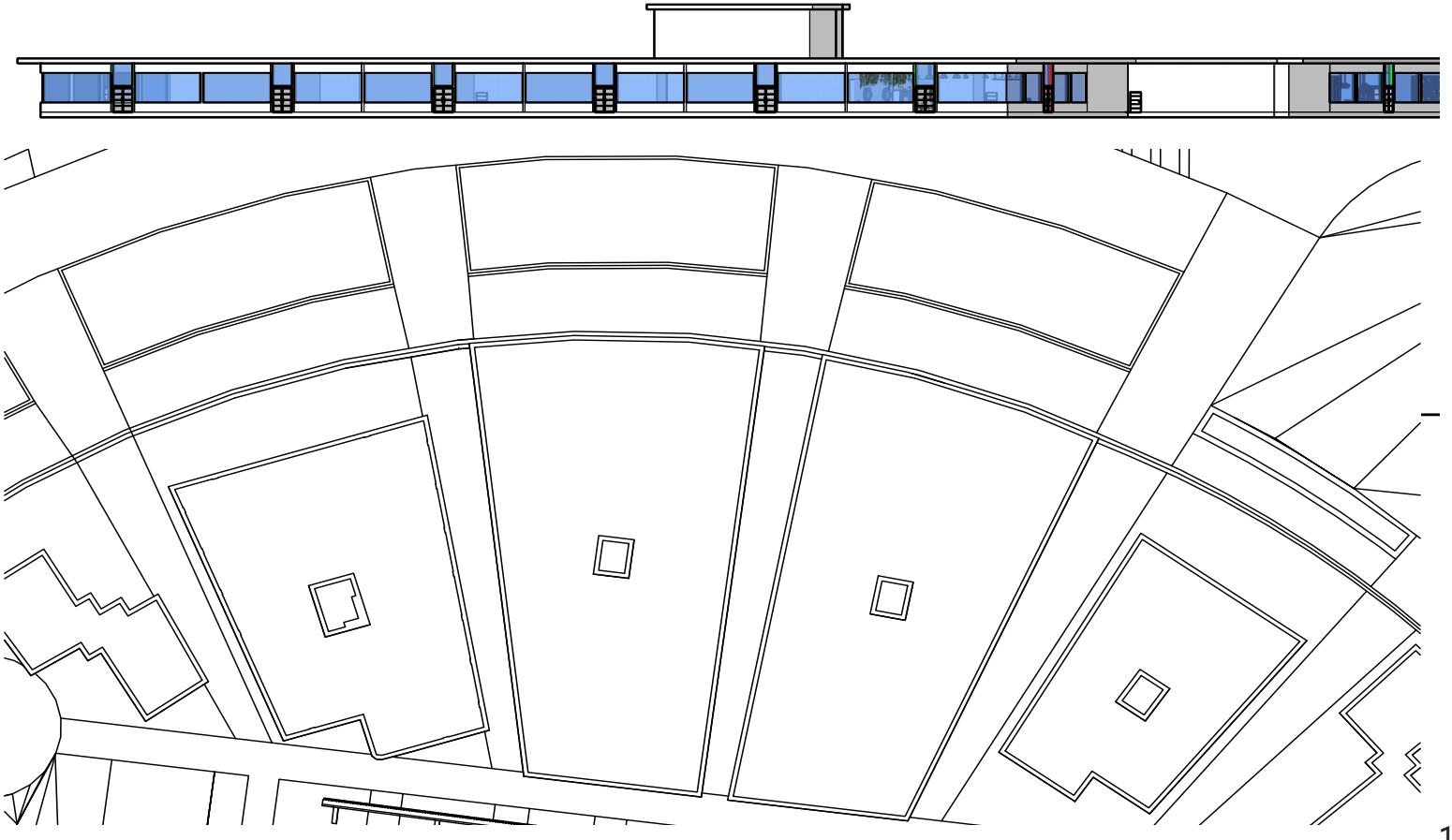
Owner: Athens City / Greece
Proposed Facilities:
Resturaunt, food court, and retail shops.
55 spaces 100,125 sqm total

BASELINE RENT IN ATHENS

45	spaces	*	800.00	=	36,00.00
6	space	*	1,000	=	6,000.00
4	space	*	1,500	=	6,000.00
54,000.00			per		month
648,000.00			per		yea

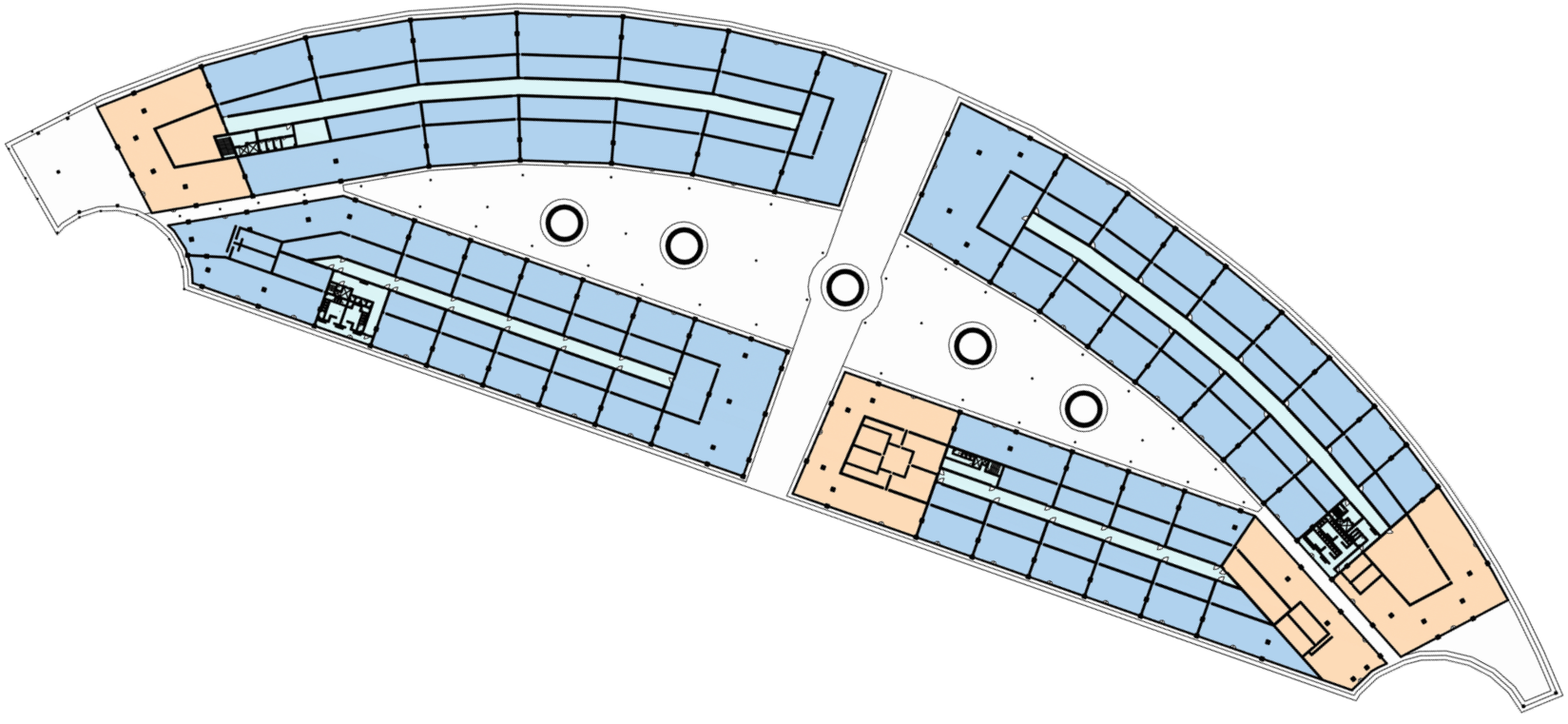
Retail Concept

Figure 61 Reatil Concept
SOUTH ELEVATION



Main Retail

Figure 62 Retail Floor Plan



FOOD COURT
/RESTAURANT

RETAIL
/ FOOD

Service, Employee, & Public Restrooms

Figure 63 Retail Service Floor Plan

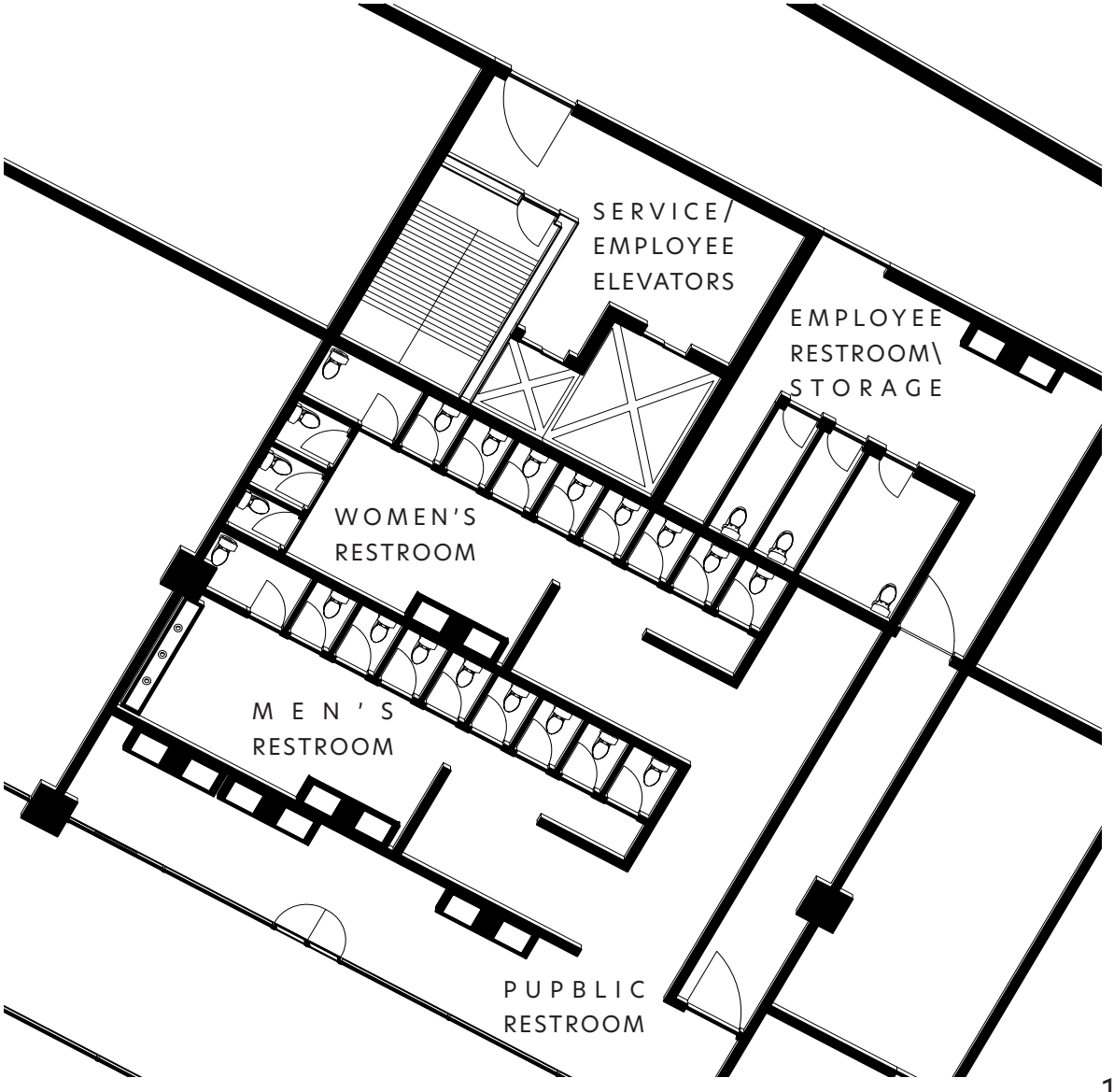

SERVICE/
EMPLOYEE
ELEVATORS
EMPLOYEE
RESTROOM\
STORAGE
WOMEN'S
RESTROOM
MEN'S
RESTROOM
PUPBLIC
RESTROOM

Figure 64 Retail Plaza Rendering

P l a z a

The plaza takes up the space os the old outdoor pools.

Faces the drive-in for a view from afar.

A fountain is located in the plaza to help with cooling.

A slide fora fun and quick way to get down. A ramp behind still exists for ADA.

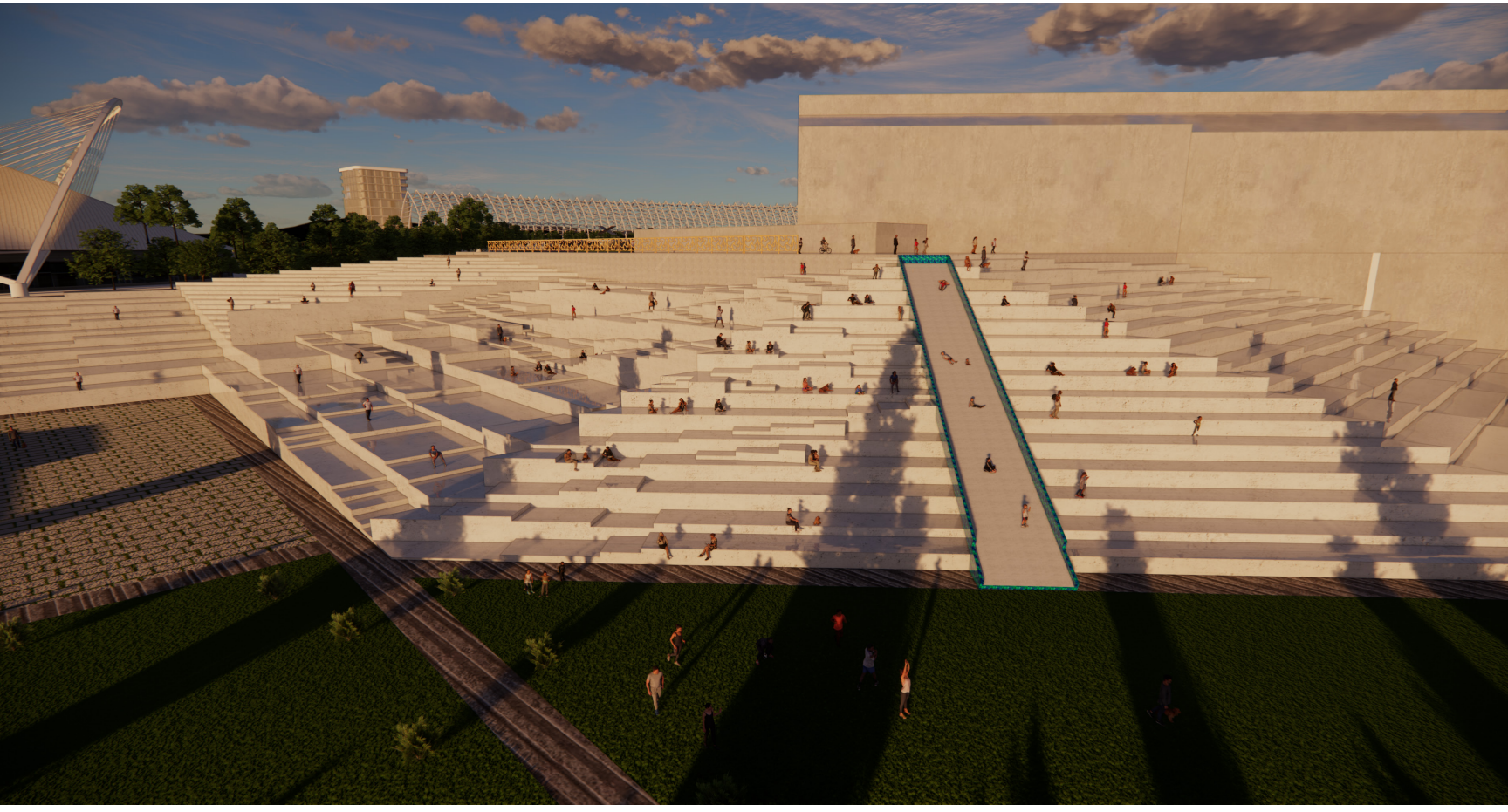
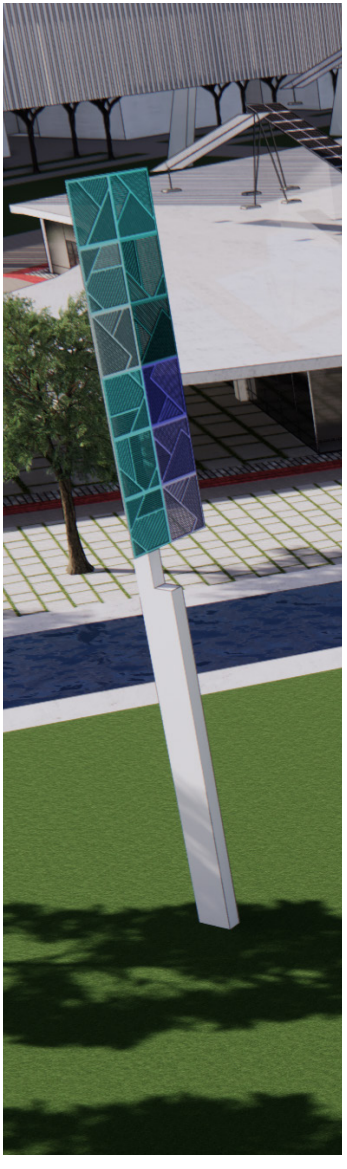


Figure 65 Plaza Rendering

Sound System

The sound system aborbs the noise from the ampitheater and main stadium. It also send out noise cancling waves. This helps protect the residentail areas surrounding the site.



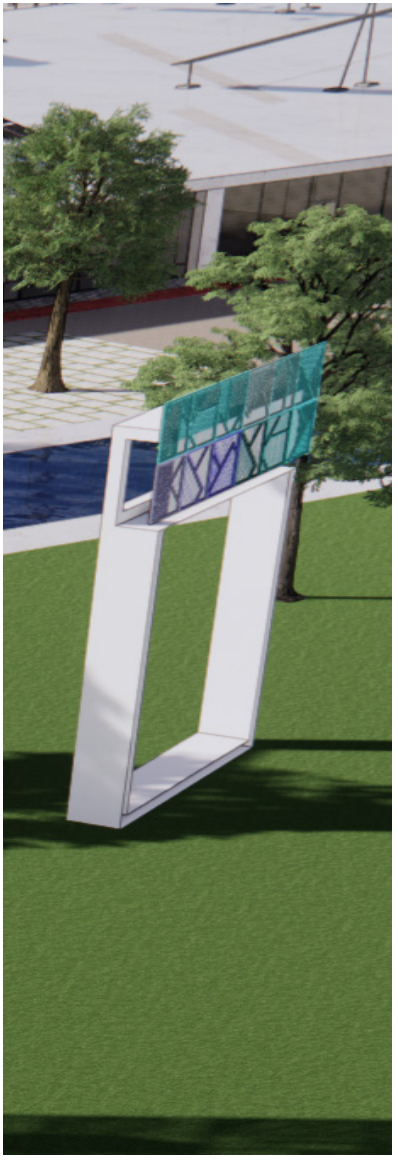
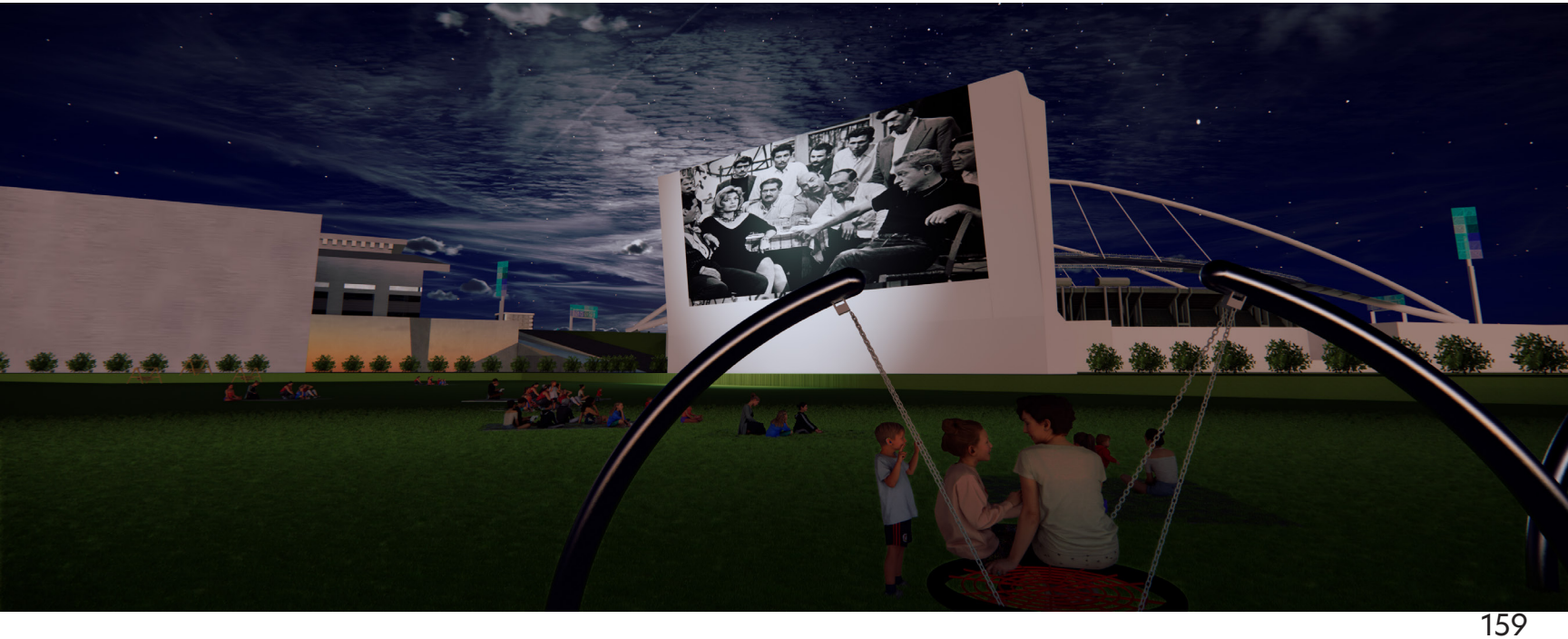


Figure 66 Sound Symstem Examples

D r i v e - I n

The drive-in is updated to be more friendly for guests without cars. Because the Public Transportaion is used vary will in Athens.

Figure 67 Drive-In Rendering



Park & Amphitheater

The park will help attrack familys and give the site a nice place for the kids festival.

Amphiteater takes place of one of the auxillary soccer fields. Giving the site a smaller place for events and festivites.

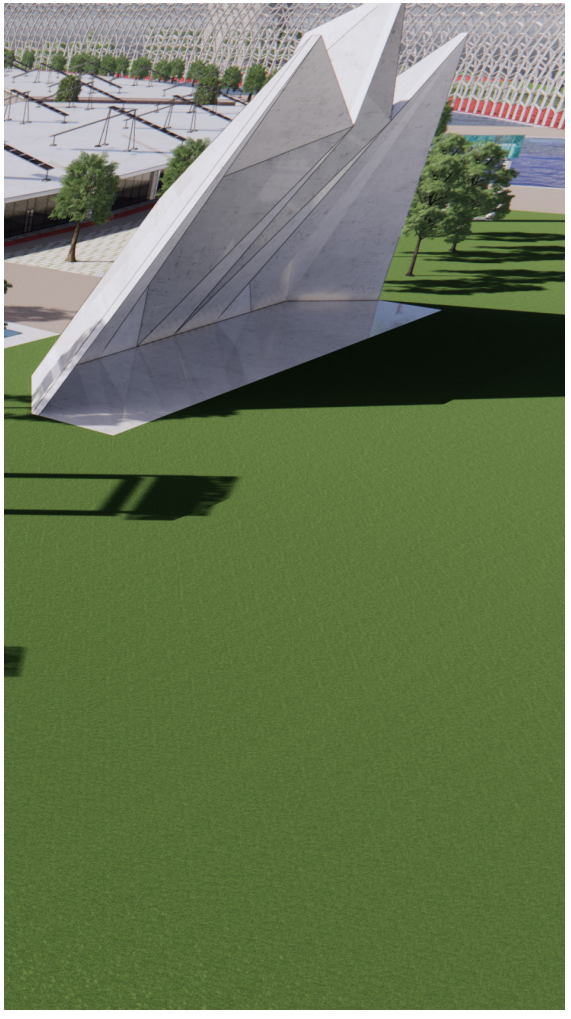
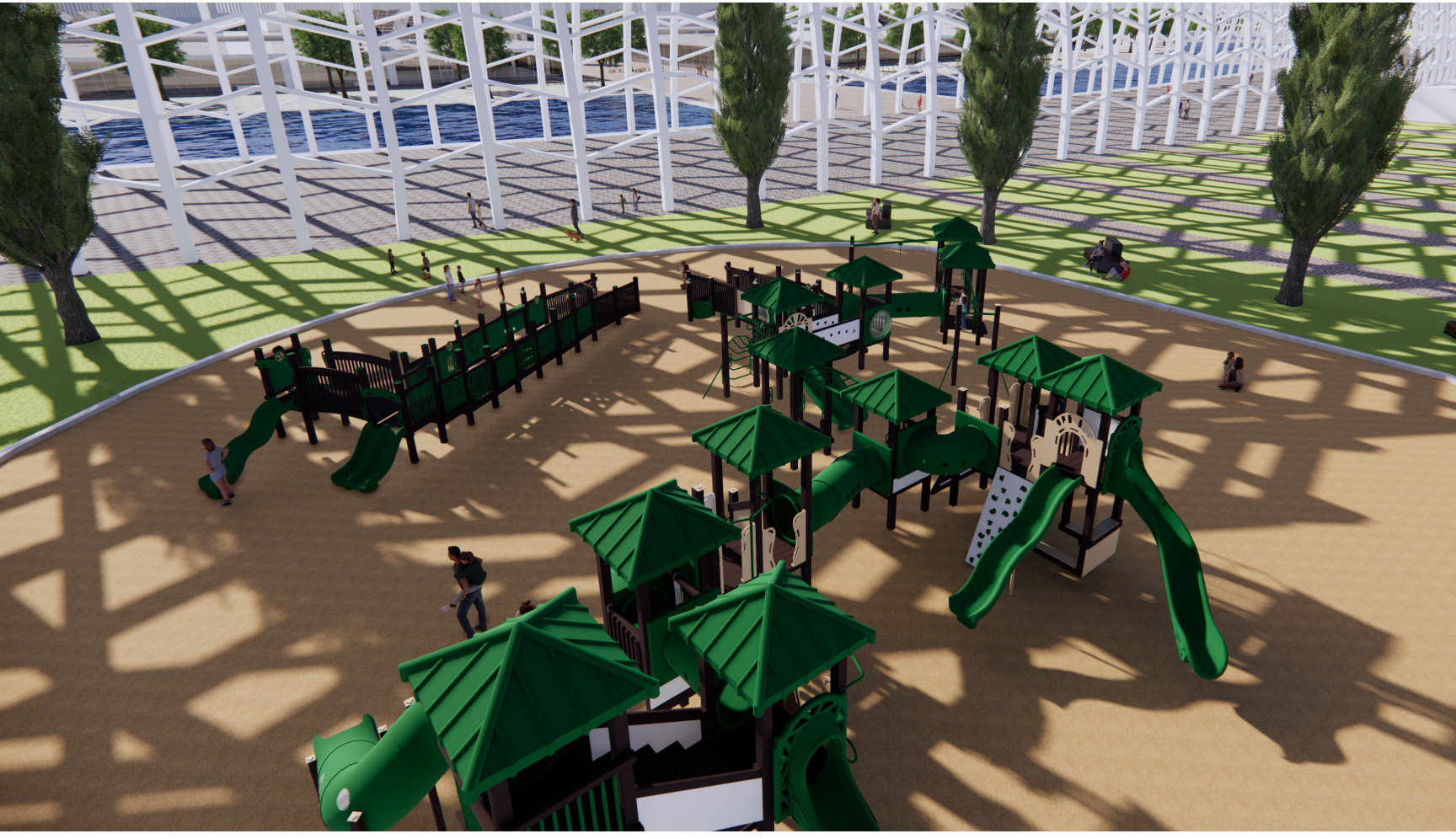


Figure 68-69

Amphitheater & Park



Circulation

The two parking levels are possible because of the site's elevation. the meet up with the parking of the existing buildings.

One level is for the public and the other is for services and delivery bay.

Figure 70 Circulation on site

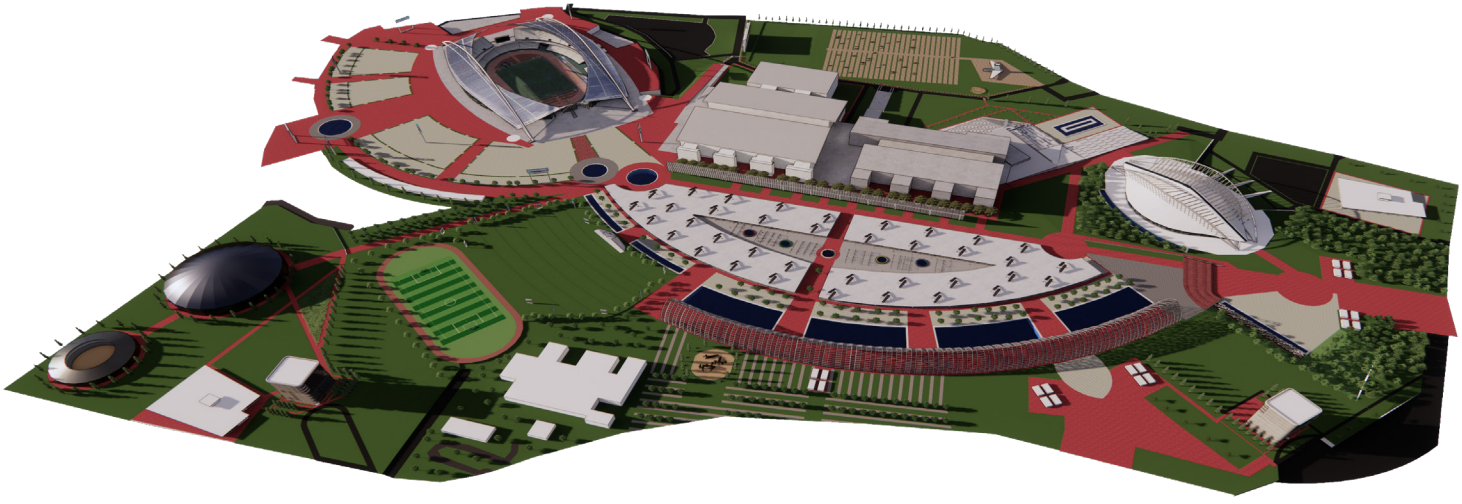


Figure 71-73 Circulation Undergrade

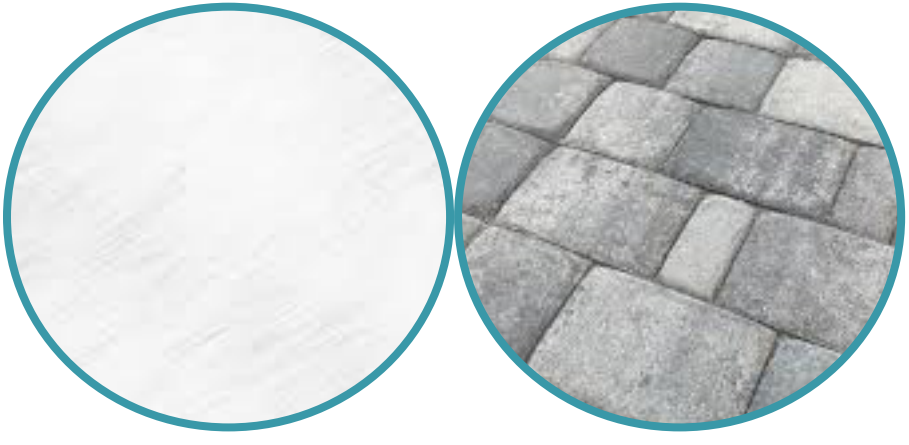
Materials

Concrete

Stone Pavers

White Steel

Oak and Poplar Trees

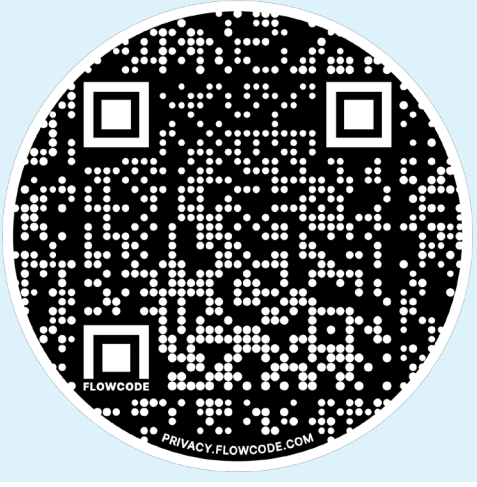


Conclusion

I am pleased for the point it has concluded for a supposed to be a stadium revival that turned into a site revival. I know that designing Olympic sites from the beginning can be no easy task. But for the hope of a better future, they will need to think about the host city and what the community wants or needs. This is what I have done for the revival of the Athens Olympic Sports Complex. I owe a considerable thank you to Professor Anna Maria Visilia. She is from Greece and guided me along this journey. Professor Ganapathy Mahalingam did as well. He worked hand and hand with me as I used my research to design for the site.

This project was an eye-opener from the struggle of finding zoning and codes because they are not available to the public to fill in massive empty spaces on the site. I only got to design for phase one, which leaves room for more retail and residential additions. I am excited to see where this project may go.

Video Phase One



Appendix

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S t u d i o

Second Year

2017 Fall
Project - Tea House
Typology - Commercial
Project - Boat House
Typology - Commercial
Instructed by - Derryl Booker

2018 Spring
Project - Tiny House Town of Cripple Creek, CO
Typology - Residential/Planning
Project - Moorhead Appartments
Typology - Commercial/Residential
Instructed by - Milton S. Yergens

Third Year

2018 Fall
Project- Chaple
Typology- Religious/Commercial
Project- Preserve Shaker Barn
Typology- Comercial/Education
Instructed by- Ronald Ramsay

2019 Spring
Project- Creative World Theatre
Typology- Theoretical Story Telling
Project- Museum
Typology- Commercial/Residential
Instructed by- Niloufar Alenjery

E x p e r i e n c e

Fourth Year

2019 Fall
Project- Miami Highrise
Typology- Commercial/Residential
Instructed by- Cindy Urness

2020 Spring
Project- Language School
Typology- Commercial Planning
Instructed by- Paul Gleye

Fifth Year

2020 Fall
Project- Fenway Park Renovation
Typology- Commercial
Instructed by- Lance Josal
Project- Thesis Research Studio
Typology- Research
Instructed by- Ganapathy Mahalingam

2021 Spring
Project- Olympic Breath: Thesis Design
Typology- Urban Planning
Instructed by- Ganapathy Mahalingam

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Rozalind Vanden Bosch

[redacted]

Hometown: Madison, South Dakota

T h a n k
Y o u

I would like to thank my classmates, professors, and my friends and family. If not for them, I would be where and who I am today.