

United Stadium

Envisioning a Truly Urban Stadium

By Kyle Kramer

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Kyle Kramer
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Abstract

It is unmistakable that sport is a universally vital element in our society today. Sport teaches us teamwork, sportsmanship, and provides a stage to compete instead of fight. Sport has been known to end civil wars and bring peace when all hope is lost. Sport has been called the world's first global culture. It has been said that where the crowds gather, history is made. With stadiums providing a stage for over 100,000 people at one time, it is easy to associate a stadium with this thought. Since the function that stadiums hold is so important to us as people, shouldn't our stadiums reflect the importance of the function they represent?



United Stadium

Envisioning a Truly Urban Stadium

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"A stadium, more than any other building type in history, has the ability to shape a town or city. A stadium is able to put a community on the map, establishing an identity and providing a focal point in the landscape." ("The Stadium" 7)
- Rod Sheard



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The Problem



(2, Google Earth)

For the past fifty years we have developed stadiums in the suburbs, much as we have developed our cities. By doing this, we have created dead zones in the suburbs used only during game day and then forgotten until the beginning of next season. Today, we have begun to reinvest in our cities. However, as the concentration of populations starts to move back into the cities, we still devastate large areas by continuing the same strategy of suburban development of stadiums. Even the stadiums that are developed closer to the center of the city still take on a suburban design arguably doing even more harm than their suburban counterpart. For example, the seas of parking that become dead zones obviously serve a purpose, but they also create a problem. By investing so much area for surface parking they act as a symbol of the real transportation issue that wasn't carefully thought out such as alternative transportation. With the cost of stadiums reaching well over \$1 billion, we have to do better. No more can we use our stadiums to create suburban sprawl or urban decay at the cost of creating vastly underutilized single purpose land rather than dense vibrant urban environments. These problems are evident in a number of built projects: Qualcomm Stadium (San Diego, CA), LP Field (Nashville, TN), and Cowboys Stadium (Arlington, TX) which are discussed in the next section.

Absence of Anything of Value

Qualcomm Stadium in suburban San Diego, CA stands as a symbol for the universal developmental problem of vast space surrounding the stadium is used for parking. Here it is apparent that the stadium parking divides neighborhoods and creates the need for major highways, further separating those neighborhoods. The problem is that with all this development, the stadium sadly makes nothing of any true value: It creates no street life because its streets are separated from it by its parking lot. The stadium will be forgotten after Sunday game day, but its devastation on the area continues. No retail, no office space, no hotels, and no residences condemn this place to being devoid of people except during game day.

Suburban Functional Problem

Stadiums have long been developed under a suburban mind set of separate functions for separate areas. The residences (yellow), and businesses (blue) have been separated from the stadium ensuring that the stadium will become empty during a majority of its lifetime. Even residences within walking distance have little option but to drive to the game due to major highways and vast distances. This should not be the case. With stadiums getting bigger and bigger and transportations become larger problems, we must give fans multiple options for getting to the game. The best of which is the ability for pedestrians within walking distance to walk safely to the game.

Proximity

By placing the stadium in a suburban area (blue), people living in the urban areas (yellow) are unable to walk to the games due to distance and safety. Marked here is a seven mile path from downtown to the stadium. Few fans would consider walking that far for a game and even if they did, they would be confronted with crossing at least 4 highways, countless busy vehicular streets, and the mountainous San Diego terrain. If stadiums were located in dense urban areas, many people could access the stadium through a variety of means: walking, bikes, metros, subways.

Size

Stadium developments are huge. As seen here, the amount of area directly devastated by the stadium is roughly 1/4 the size of the entire downtown. To put that in perspective, Qualcomm Stadium is equal to 1/4th the entire central business district of San Diego, the seventh largest city in the United States of America. Since stadiums take up so much area, shouldn't they be contributing to the area they are developed in? It is surely a tragedy that we use so much space to create a place that pedestrians seldom use.



San Diego; Qualcomm Stadium Aerial (2, Google Earth)



Functional Aerial (2, Google Earth)



San Diego; Downtown to Stadium = 7 Miles (2, Google Earth)



San Diego; Downtown Size Vs. Stadium Size (2, Google Earth)

Supporting Urban Decay

Some may say that the scar of stadiums is only felt in the suburbs. This is not the case. In Nashville, TN the stadium known today as LP Field is located adjacent to downtown just across the Cumberland river. Instead of using this stadium to extend downtown Nashville across the river, the planners decided to demolish the historic fabric of Nashville to make way for parking. Instead of using the stadium as a generator for an urban area and the vibrancy that comes with it, the stadium has created a dead zone in the center of the city similar in size to downtown Nashville. As a people we cannot do this. What have we become if we destroy our historic centers, only to put a dead stadium in its place. It would be much better to use the stadium to create a new special place in the city, building on the history of the character that is already there. To do this, the pedestrian, not the vehicle, has to be the biggest priority in planning. Underground parking, parking garages, and public transportation systems cost money, but when you look at the other option it starts to seem like a viable option.



(2, Google Earth)

Downtown Nashville and LP Field

New Stadium Supporting Suburban Sprawl

The problem is far from being solved. The new cowboys stadium in Arlington, TX possesses many of the problems just highlighted. For example the stadium is located 17 miles from the city it calls home, it is situated in a huge parking lot, and highways divide the nearby neighborhoods. The price tag for this new stadium is currently at \$1.1 billion. With our stadiums costing this much and doing so much harm to our cities, we must do better. We have no option but to realize the true potential of the historically urban element that is the stadium.



(3, World Stadiums.com)

New Cowboys Stadium Surrounded With Parking



(3, World Stadiums.com)

New Cowboys Stadium Surrounded With Parking

Changing Our Thinking



(3, World Stadiums.com)

Maybe the problem is that we think about our stadiums incorrectly. We have grown up attending sports games in stadiums engulfed in parking and for many of us we see no other option. When we treat our stadiums this way we are saying that they are only good for one function and ignore the reality that they can do so much more for the city. In Roman times, the Colosseum was built at the center of the city and stood as a symbol to the way sport and entertainment were perceived in their culture. Maybe we need to change our thinking to reflect the importance a stadium can have on our culture. We begin to view our stadiums in a different way when they become focal points of development, active public space, monuments, and mixed use buildings. When we start to view them in this way, we see the possibility for more than just a building with a singular function that is used during one sports season each year. The following examples are case studies that portray these “what if” scenarios. Each of the following projects have succeeded in becoming more than just a typical stadium. Only when we start to view our stadiums as the integral urban building block they can be, can we hope to let our stadiums live up to their potential, creating wonderful urban places instead of dead suburban and urban places with a lack of any semblance of street life.

Stadium as Focal Point of Area

AT&T Park was developed in an old warehouse district near downtown San Francisco, CA. By placing this stadium in an old warehouse district, it has caused a rebirth for the area and given the people a center to their revitalized area in the city. Due to the draw of the stadium, developers have renovated many of the old warehouses into city lofts and business spaces giving the area a mix of uses. Now people identify the area with the stadium and speak of it with a sense of pride because it has transformed their neighborhood. Couldn't all stadiums be seen as focal points for their neighborhoods.



(3, World Stadiums.com)
AT&T Park, San Francisco, CA

Stadium as Active Public Space

When the scheme for Petco Park was developed, the architect decided to make some bold moves by opening up the block for public spaces. The architect did this two main ways. First, a pedestrian path was added that connects to the urban fabric on both sides of the block. Instead of the stadium obstructing the natural flow of traffic, it is now open for people to move through it when the stadium isn't being used. Second, the architect created a public park which established a new function on the block. By reserving space on the block for a dedicated public park and pedestrian path, this stadium ensures its use as an active public space beyond game day. This is a strong move, and one that most stadiums completely ignore. Shouldn't all stadiums contribute to the places they are built?



(3, World Stadiums.com)
Petco Park, San Diego, CA

Stadium as Monument

If you watched the Olympics, then this stadium is undoubtedly familiar to you. Due to its unique design, the stadium is immediately recognizable and it thus becomes a symbol of its society. What it stands for is yet to be seen, but hopefully it comes to stand for a new China that first displayed-- with this stadium as its stage-- its positive intentions and contributions for the world. Aren't all stadiums monuments for the places they represent?



(3, World Stadiums.com)

Beijing National Stadium, Beijing, China

Stadium as Mixed Use Building

This stadium in Basel, Switzerland did more than just create a place for games to be played. It created a situation for an urban environment. When this stadium was developed, the area was rural in character. Knowing this, the architect added retail and residential functions to the site effectively providing the site with much needed urban density and multiple functions. Because of this stadium, the entire area has begun to densify and a new urban condition in Basel has taken place.



(3, World Stadiums.com)

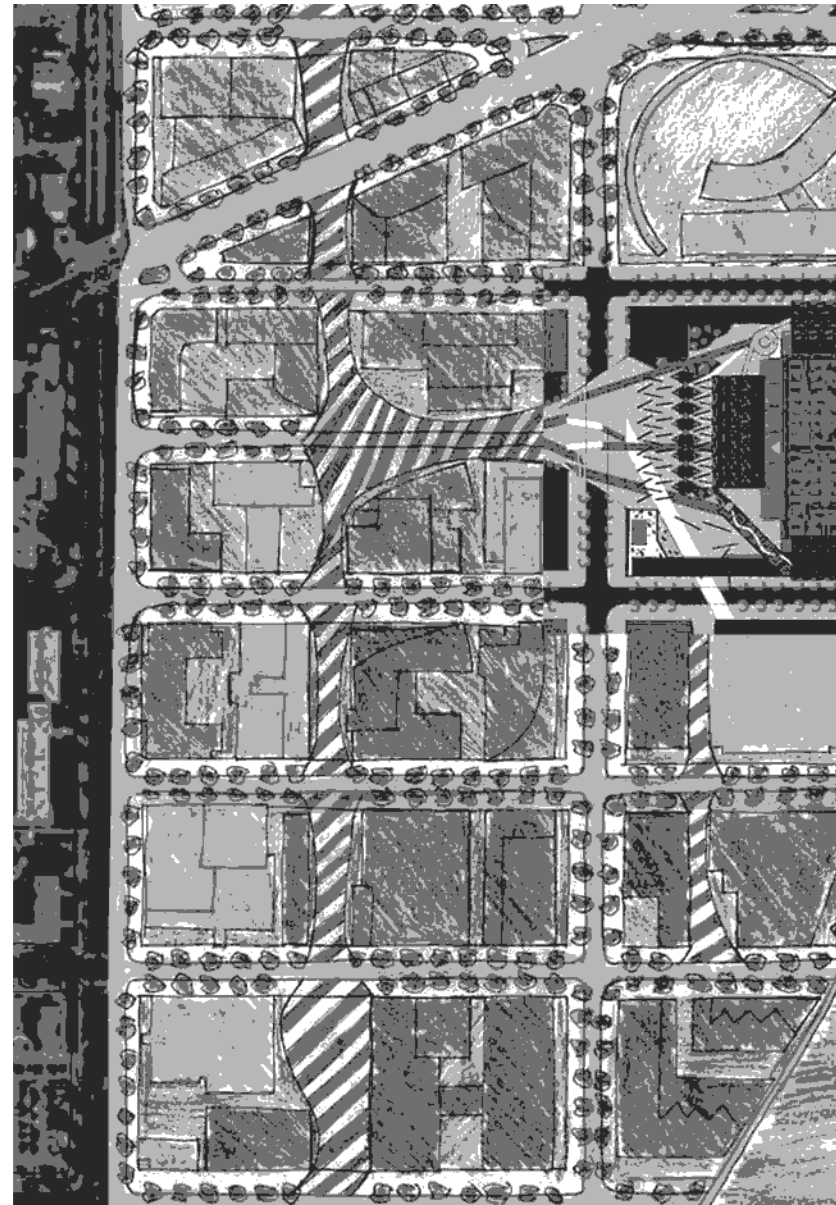
St. Jakob's Park, Basel, Switzerland

Enlarging The Program



This thesis started as an urban design project and became a soccer stadium. So what is the program of a soccer stadium? As this thesis matured, it became evident that the program applied to many things. The program obviously applies to the team and fans. What else could be a part of the program? Due to the huge regional and even international draw of a stadium, it quickly became apparent that regional scales also needed to be considered when thinking about the larger program. This in turn raised the question of the stadium's relationship to the neighborhood, city, and larger area where fans would come from to see the game. Residential, retail, and office functions were added to the site, and thus their objectives were added to the program. I realized that the main objective of the stadium was to create a center for a mixed use urban neighborhood in Washington D.C., and thus the program must reflect this realization. Because of this, much consideration was given to creating live streets, providing plaza space, and creating a multifunctional area at all times of the day. Only when all these things are first considered, can one hope to design a piece of architecture to stimulate and add to the area's life in which it is built.

The Site



As the scope of the program developed, the area of the site became more clear. So what is the site of a stadium? Does site simply mean the block the stadium is built on? Can site be expanded to include the neighborhood the stadium will inevitably transform? Does site simply mean the city the team calls home, or is site the regional area that the home team pulls its fan base from? Can site even mean the national stage the team consistently plays on, or is it even as large as the distance that people will travel to follow their teams for international matches? The answer, is that site includes all these scales, and all should be considered when designing a stadium. The area of study chosen for this project is a masterplanned neighborhood called NOMA which stands for North of Massachusetts Avenue. NOMA is the old rail yard and its surrounding blocks located directly north of and including Union Station in Washington D.C. The entire neighborhood is going through a huge period of development. The planning for this neighborhood boasts 10 million sq. ft. of office space, 8,000 living units, 1,200 hotel rooms, and 750,000 sq. ft. of retail space. The neighborhood is being marketed as a "24 hour mixed use neighborhood", but something is missing. I began to realize that this neighborhood had no real center stitching the multiple functions together. This is when the idea began to use this soccer stadium to create a center for the neighborhood. The following is a study of the site considering travel by teams and fans to the games, the relationship the masterplanned area will have with the city, and the relationship the stadium will have to the masterplanned neighborhood. Throughout this thesis these relationships were important strategies used to develop the architecture of the stadium. If we aren't using our stadiums to develop and strengthen our urban condition, than we are wasting the crucial tool in urban development that the stadium is.

International Transportation

Due to the stadium's location in Washington D.C., fans and teams coming to the stadium have access from three international airports. Dulles International Airport, Ronald Reagan-Washington National Airport, and Baltimore-Washington International Airport are located 40, 15, and 35 minutes respectively from the stadium when driving. The soccer stadium is located at a metro station. Dulles and BWI have bus service to the metro system for the public. Reagan is also located at a metro stop giving the opportunity to exclusively use public transportation to and from the stadium.



(1, Author)
Baltimore-Washington International Airport



(1, Author)
Ronald Reagan Washington National Airport



(1, Author)
Dulles International Airport

Regional Rail Transportation

The soccer stadium is located within a 10 minute walking distance to Union Station. This is important because Union Station is the main station in Washington D.C. for Amtrak trains entering and leaving the D.C. area. Because the station is so close to the stadium, it is not unreasonable to think that a fan might ride a train into D.C. to see a soccer match instead of making the long drive. Also, Union Station is located only one metro stop away from the stadium if people would prefer to metro instead of making the 10 minute walk.



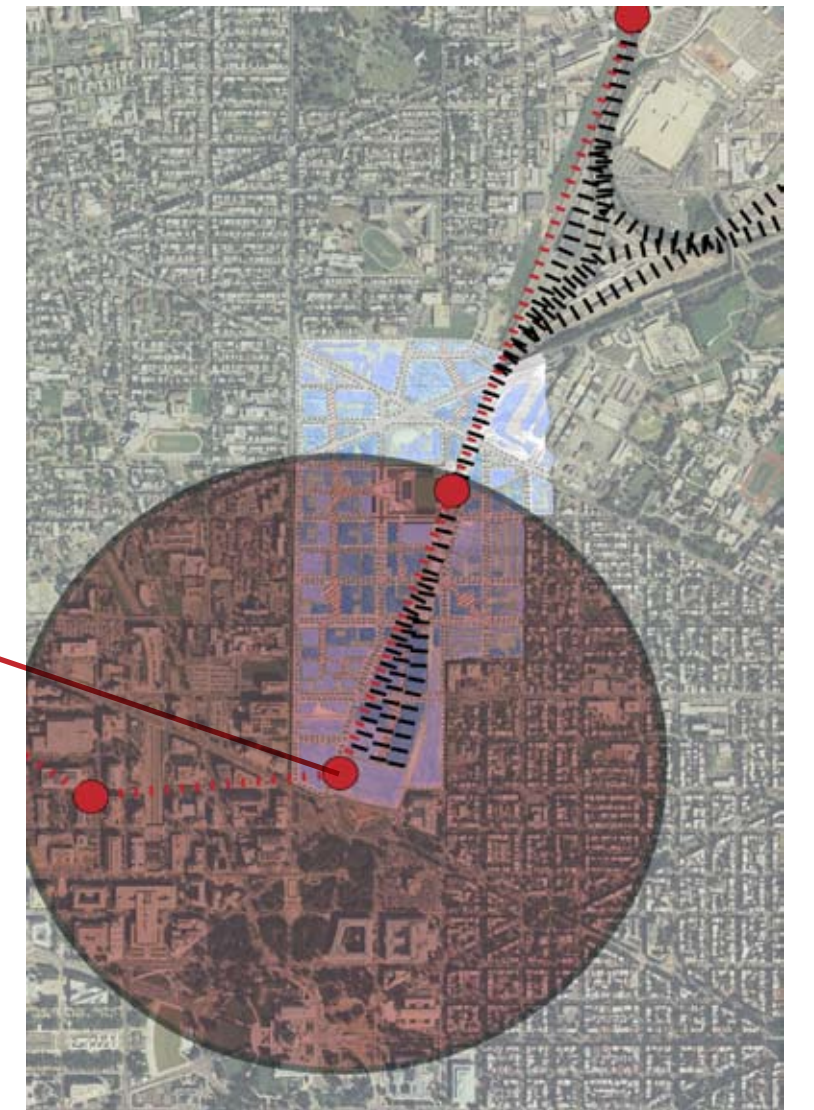
(1, Author)
Union Station
Main Amtrak Stadium in D.C.

Regional Bus Transportation

The main regional bus station is also located within a short 10 minute walk to the stadium. This station is serviced by Greyhound and Peter Pan bus lines. This provides another option for people coming to the game from a regional destination.



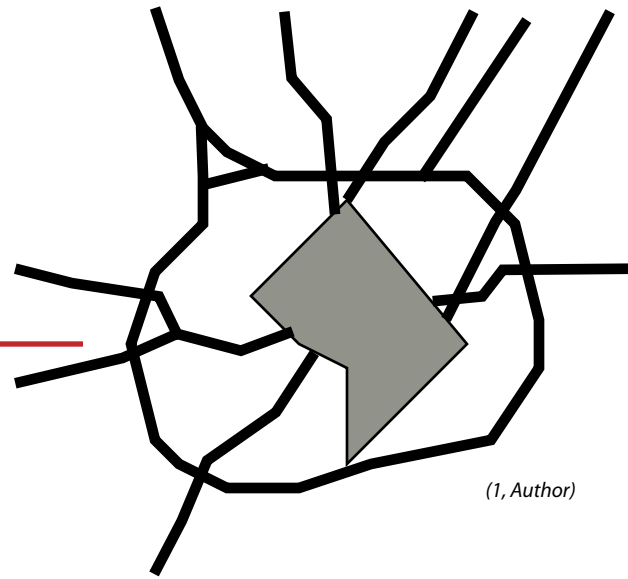
(1, Author) (1, Author)
Greyhound Bus Station
Located inside of 10 Minute Walk to Stadium



(2, Google Earth)
Site Proximity to Union Station
Circle represents 10 Minute Walk

Metropolitan D.C. Highways

The existing highway system provides fans the option to drive to the game from all areas of the metropolitan area. Seen here are the major highways that eventually plug into the urban fabric bringing people by car to the game. Over 4,000 parking spaces have been provided on site as well as parking throughout the neighborhood, to accommodate for fans using this method of transportation.



Washington D.C. Highway System

Commuter Rail

MARC and VRE trains are the commuter rail services in Maryland and Virginia respectively. The end destination is Union Station. Again, due to the stadiums proximity to Union Station, these trains become an option for fans to use for transportation to the game.

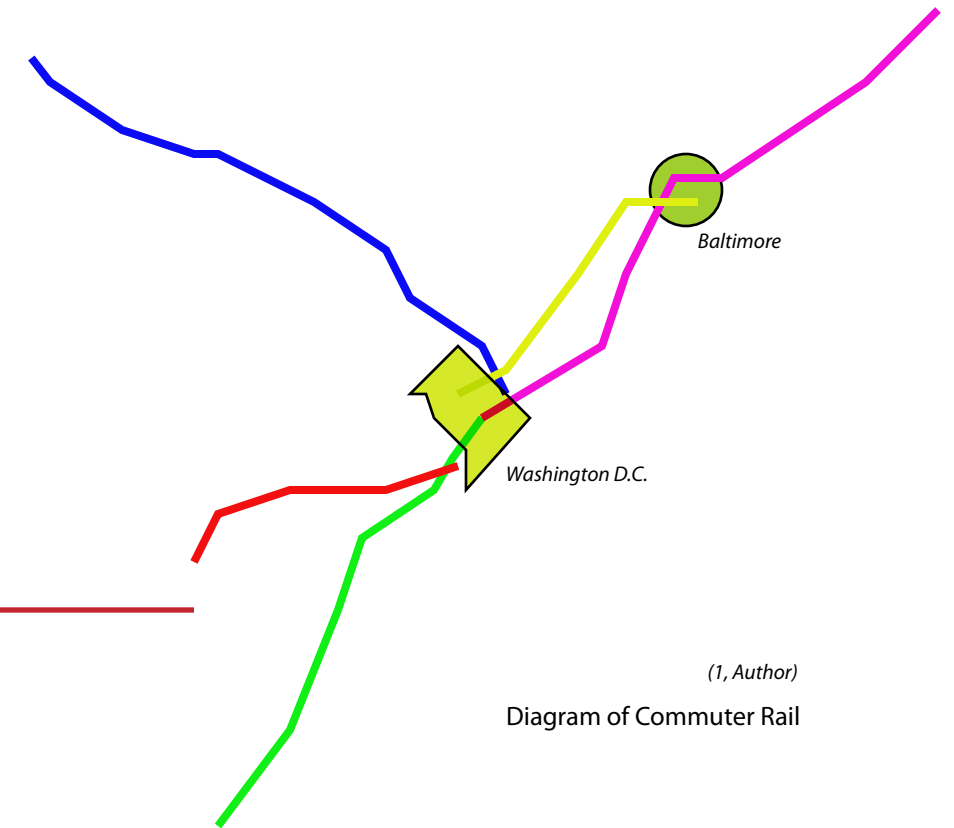
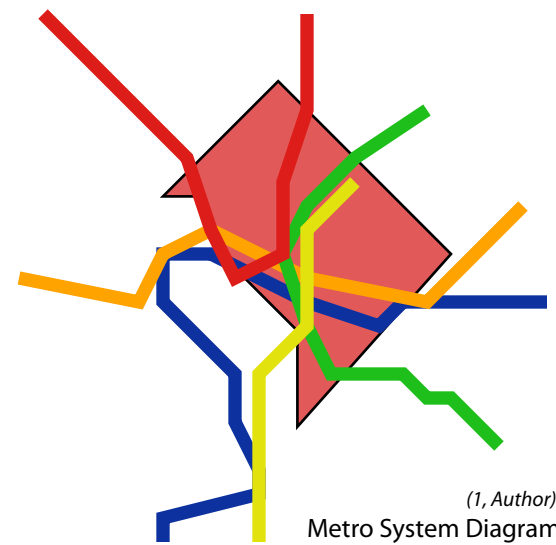


Diagram of Commuter Rail

Washington Metro

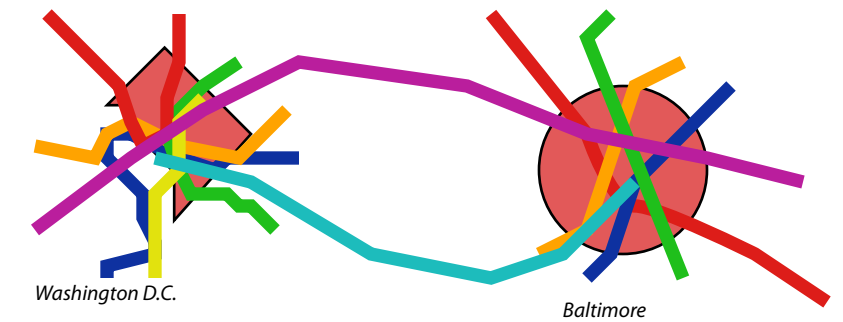
Adjacent to the block the stadium is developed on, is the New York Avenue metro station. This immediately connects the stadium to the metropolitan area giving fans an easy way to get to the stadium. This metro station will become one of the main entrances to the stadium as many of the fans attending games will arrive this way.



Metro System Diagram

Infrastructure Updates

By making minor updates to our current infrastructure fans could train to the stadium from almost anywhere in the Washington-Baltimore Metropolitan area within an hour. The following example diagrams a proposed connection between the Washington Metro and a proposed subway system in Baltimore, MD.



Future Rail Diagram

Central Location

This neighborhood was originally an old rail yard for nearby Union Station located adjacent to the historical downtown area. Due to its central location in the city the site has an opportunity to extend downtown and use the stadium as a catalyst for the new developed area by giving it a center and unmistakable center.

Relationship to Area

As mentioned, the site is an old rail yard where many diverse neighborhoods converge. The elevated rail lines have become a barrier separating people on both sides. The new plan calls for most of the developed area on the east side of the tracks to be residential while the area immediately on the west side of the tracks could be designated for office and retail functions. As part of this project, residential was incorporated into the site the stadium is located on, bringing the residential neighborhood into the office dominated area, thus ensuring that the area will be used at multiple times of the day. It is my hope that the stadium can take a lead role in stitching the neighborhoods back together.

NOMA

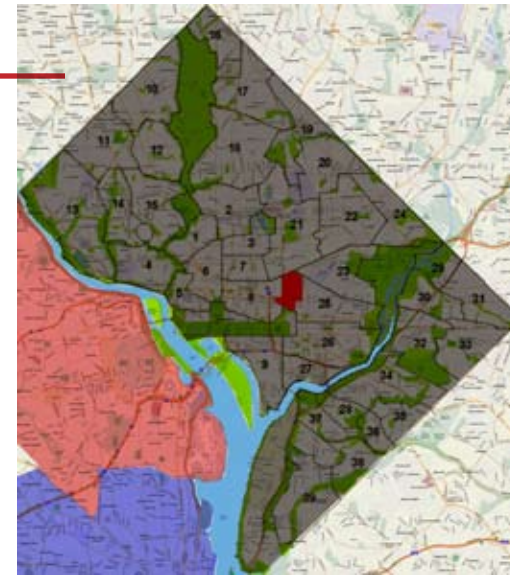
NOMA is a new masterplanned neighborhood chosen representing the larger site. It boasts 8,000 living units, 10,000,000 sq. ft. of office space, 750,000 sq. ft. of retail, and 1,200 hotel rooms. What's missing is a strong center for the neighborhood. It is my aim that the stadium gives the neighborhood a strong center. To do this I have incorporated two large plazas, one each to the east and west of the site, directly in front of the main entrances. Also, the architecture signifies that this is a focal point of the area. Pedestrian paths were also added, cutting through the neighborhood and extending out into the adjacent neighborhoods further stitching them to the new neighborhood.

Transportation to NOMA

There are many streets in and around NOMA that will be heavily trafficked during game day. The diagram shows the current busy streets that will become even busier on game days. Also there are several stops on the Metro within walking distance. One stop being located on the site. These will be the two main means of transportation to the game for people not living within walking distance.



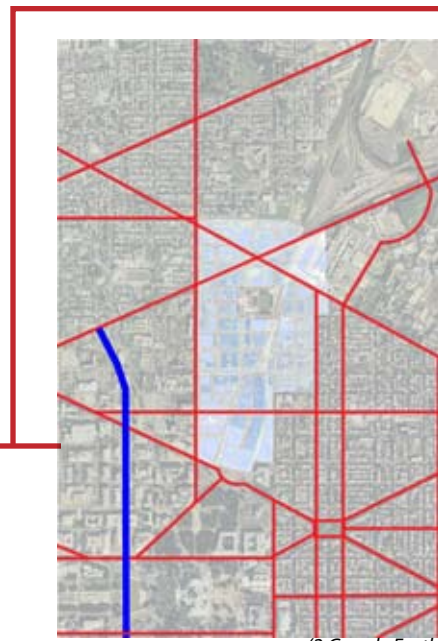
(2, Google Earth)
Neighborhoods near NOMA



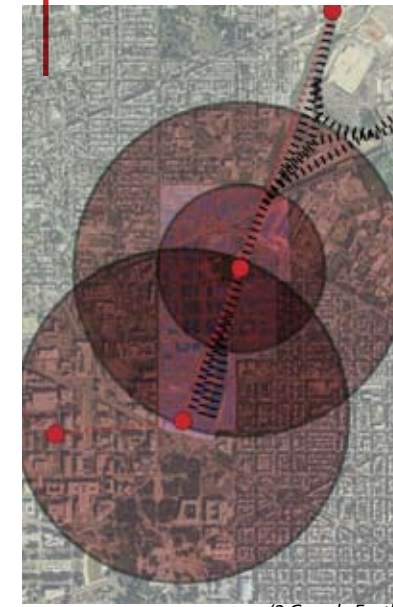
(2, Google Earth)
Washington D.C. - The City
NOMA's Central Location in Dark Red



(2, Google Earth)
Washington D.C. - Downtown
Red Represents NOMA



(2, Google Earth)
Heavily Trafficked Roads Near NOMA



(2, Google Earth)
Metro Stations Near NOMA
Circle Represents 10 Minute Walking Distance



(2, Google Earth)
NOMA - The New Masterplan

Strong Retail Street

One of the main objectives of the masterplan for NOMA that I wanted to keep, was the presence of a strong retail street at First street. Retail (red, green) was pulled to the side streets around the stadium block to begin to draw that life down those streets. One of the problems of the current plan was that the residential was concentrated on the eastern side of the rail tracks. To respond to this, residential (yellow) was added to M Street to pull residential across the old rail tracks beginning to bring residential to the west side of the tracks and mix the functions of the area.

Pedestrian Movement

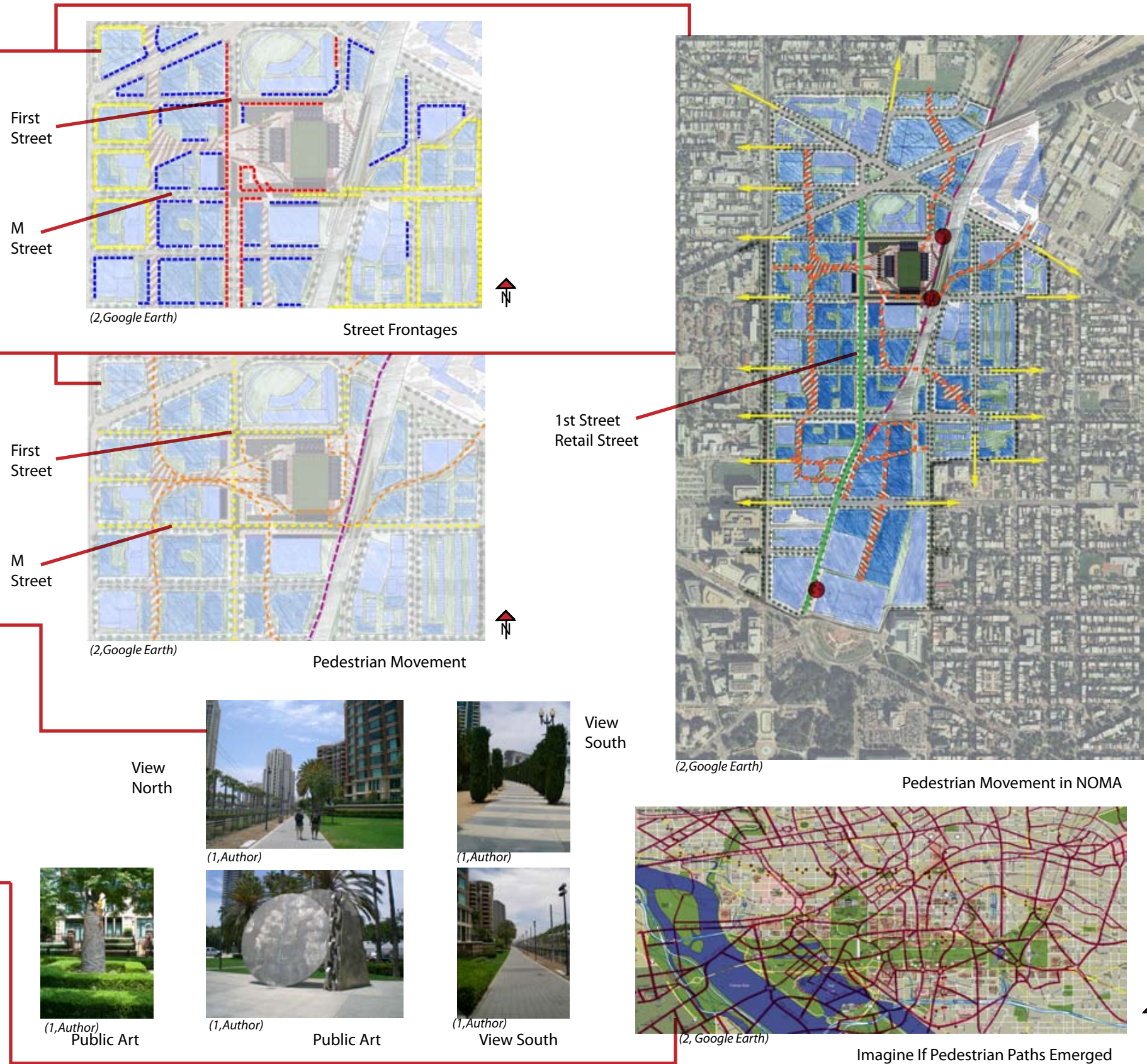
The footprints of the buildings in the masterplan that haven't been built have been altered to make way for a network of pedestrian paths aimed at giving people another option when moving through the neighborhood. These paths are also seen as a way to direct people's paths to the game. As these paths enter the stadium block, they become the places where the entrances are located. In this way, the scheme for the architecture of the stadium has responded to the urban design.

Pedestrian Path Character

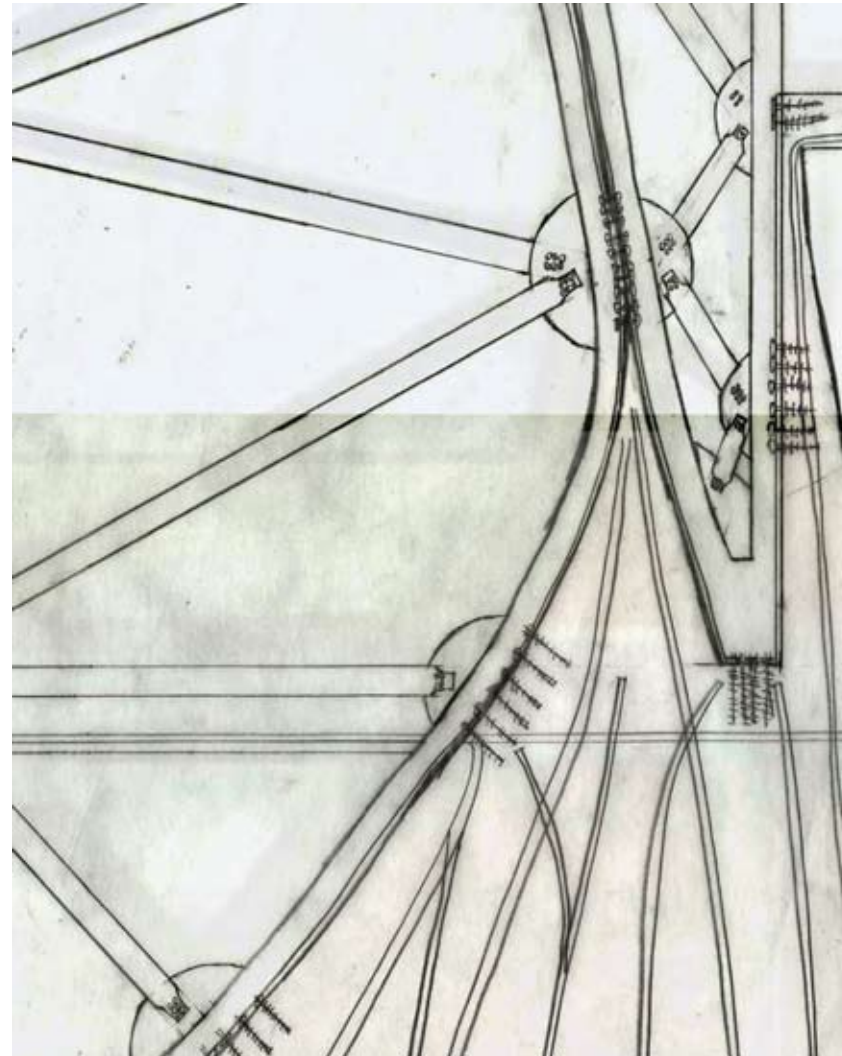
The paths will be lined with artwork and change to reflect a different feeling as people move toward the game, or their destination. The paths will be seen as an oasis in the city much as these pictures show from Martin Luther King Jr. Blvd. in San Diego, CA. The hope is to give pedestrians another option other than a strong vehicular street or a strong retail street.

Imagine D.C.

-Just imagine if this system caught on. D.C. could one day have a dense network of pedestrian paths to give another option for transportation as the city continues to densify.



The Stadium



(1, Author)

This stadium was designed for the team, the fans, and the city. Team areas were located underground while retail functions lined the street to create life during daytime hours. Residential functions were also added to ensure that this site is used 24 hours a day. Structural pieces were used to accentuate the fact that it is actually a stadium. In many situations the structure was used for additional purposes such as balconies for the residences, and to define the formal entrances into the stadium. The shading devices that attach to the structure are operable to ensure that a minimal degree of shadows hit the field, and the resident has the opportunity to regulate the sun entering their bedroom located directly behind the balcony. In each detail the objective was that it act as a transitional element that reacts to its situation. Ramps and stairs are ever present in the circulation areas to ensure optimum movement to and from seating. All residences are two levels with their bedrooms facing south to take advantage of sunlight while the living rooms wrap over the hallway toward the field cutting the necessary amount of hall space in half and giving amazing views toward the field. All parking on the site was located underground so ample area could be made into plaza space. The main entrances are located as a direct result of where the pedestrian paths enter the block. The architectural scheme of this stadium was developed in relationship to the area in which it resides. Consideration was given for the proportion of the stadium to the surrounding blocks so the stadium begins to fit into the area. Only when we synthesize architecture and urban planning, can we hope to create connective urban environments.

Multiple Functions

Many functions are included in this site to ensure its activity at all times of the day. Business (black), retail (purple), and residential lobby (yellow) are all present in addition to the main stadium function of the site. There are also large plaza areas at the east and west sides of the site. The entrance to the metro station can be accessed from the eastern elevated plaza.

Two Lives

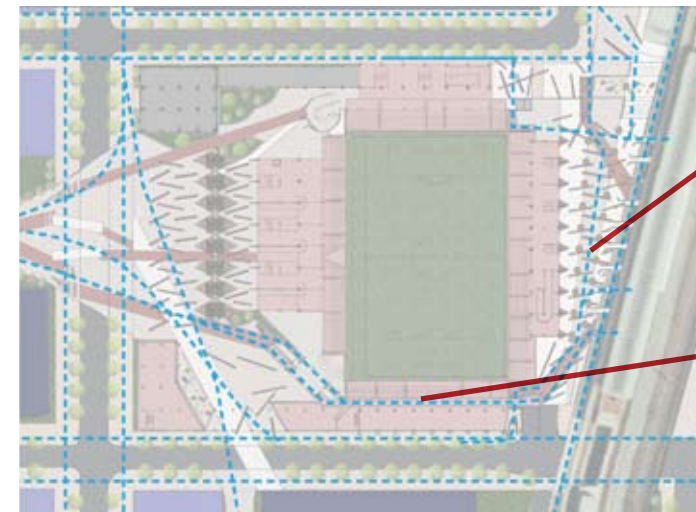
This site has two lives. Game day and everyday traffic demand different ways for people to interact with the site at different times. During the week people will be moving through the site on the way to work, home, school, shopping, etc. while on game day the site becomes the main destination with peoples' routes focused on the entrances (Purple). Efforts have been made to give pedestrians the ability to move through the site so the stadium doesn't become a barrier during its everyday existence

Elevated Plaza

Nine small bridges connect the metro station and the elevated pedestrian plaza. Directly beneath the bridges is the metropolitan branch bike path. The plaza is open at all times creating a shortcut for people moving north-south and designating a meeting space beside the metro. Instead of the stadium becoming a barrier for the site, it opens up this area for people to interact and move through the site.

Pedestrian Walkway

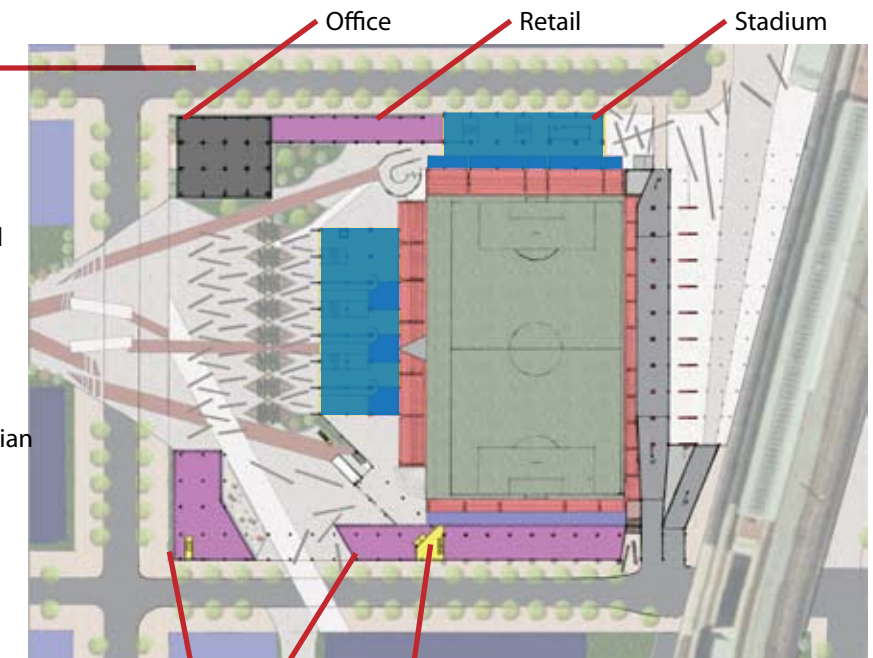
This walkway cuts between the stadium and the residential on the southern side of the field creating a way for people to move east-west through the site at all times. This provides a route for people to walk on so the stadium doesn't become a barrier for people moving through the site. It also allows people, who might not be able to afford a ticket, to get a glimpse of a game being played.



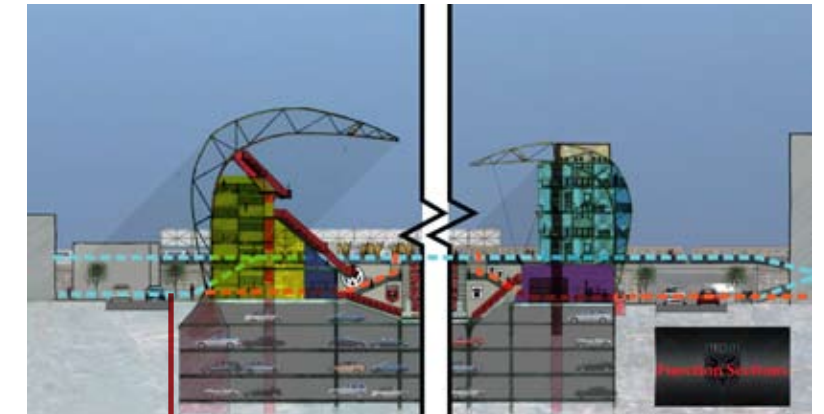
Dashed Lines Indicate Everyday Movement



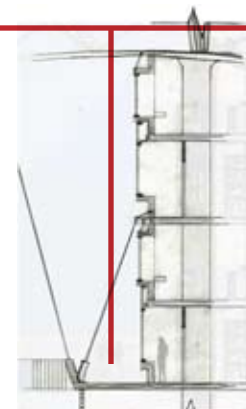
Dashed Lines Indicate Game day Movement Entrances Highlighted in Purple



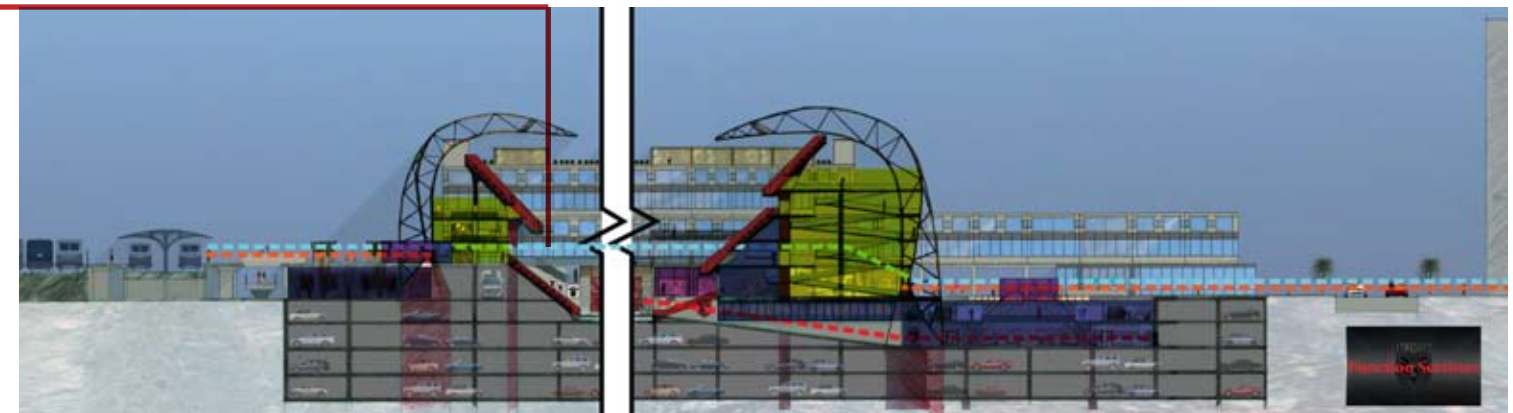
Multiple Functions on One Site



Dashed Lines Indicate Pedestrian Movement Through Site Yellow = Circulation, Purple = Retail, Light Blue = Residential



Pedestrian Walkway Section Located Between Field and Residential



Dashed Lines Indicate Pedestrian Movement Through Site

Coming to the Game

Many people will arrive at the game via the pedestrian paths network set up in the NOMA neighborhood. Because of this, the entrances to the stadium are located where people would enter the site from the pedestrian paths.

Entrances

There are two main formal entrances marked in purple on the east and west, and two secondary entrances at the northeast corner and southwest corner marked in purple.

Formal Entrances

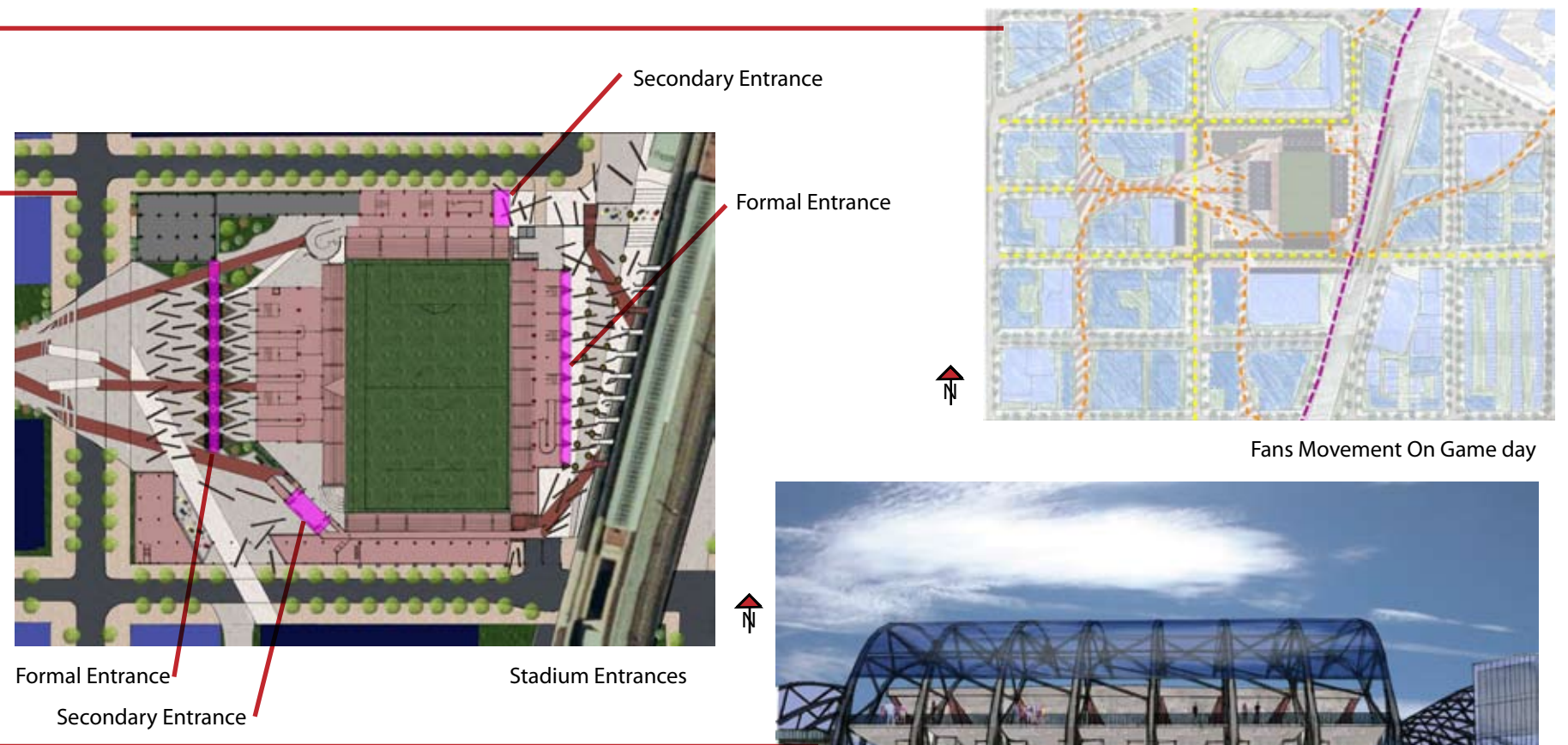
The entrance on the western side of the site is the entrance for people coming from the city. As pictured, people come into the site and pass through the structure from below, as they transition into the game. The structure becomes a barrier between the inside of the stadium and the public plaza. The individual structural pieces angle towards each other and the space they create is the entrance. This space is the logical place for a turnstile which will control access into the stadium. The second formal entrance is from the metro. People will pass over one of nine bridges to an elevated pedestrian path. Once there, they will be directed to the entrance by a series of tree wells open to the space below. As fans meet the structure of the stadium, this becomes the obvious place for the turnstiles to be located for fans to pass through as they enter into the stadium.

Secondary Entrances

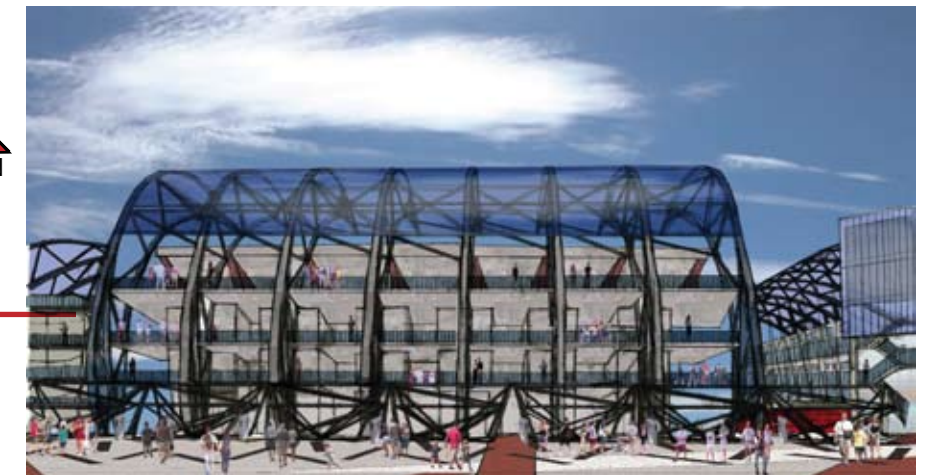
-These entrances are located at the northeast and southwest corners, providing additional entrances into and exits from the stadium. When walking south towards the entrance at the northeast side of the site, a fan can see the field before they enter the stadium. From this direction you can see glimpses of the game without even entering the stadium. This is similar to the view one would have approaching on a train from the north. The entrance in the southwest corner is located directly below the elevated pedestrian walkway. It serves as a quick exit for fans in the southern stands. Both secondary entrances use turnstiles to control access to the games.

Mixed Use Street

The south facade of the building becomes a residential street with its main lobby located at the center of the block. This lobby is open the entire height of the building. The decision to make this a residentially focused street is an attempt to connect to the residentially focused area directly up this street on the other side of the train tracks. The remainder of the street is lined with retail.



Fans Movement On Game day



Formal Entrance From City



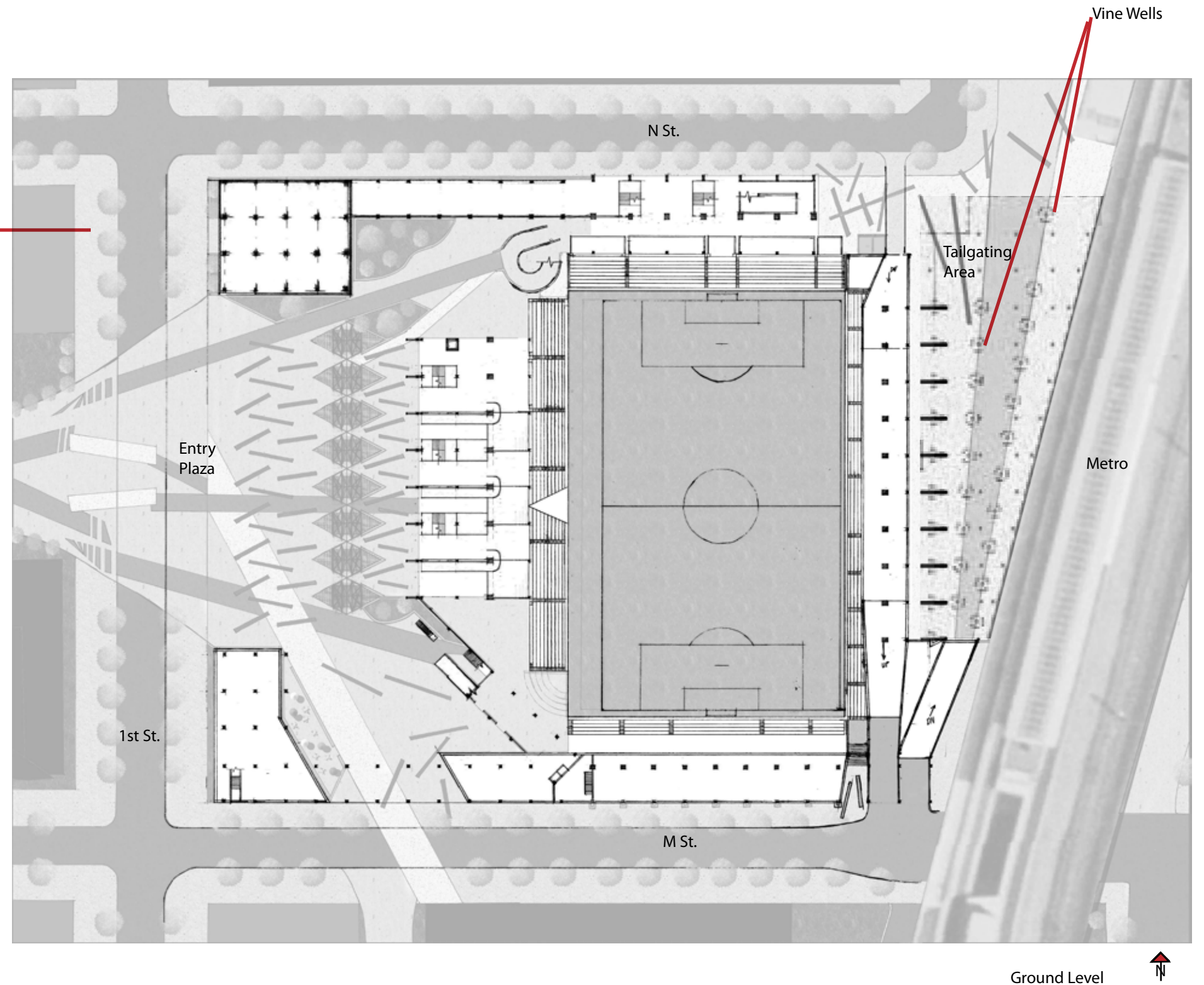
View South Toward Secondary Entrance -- Field View



View East on M St. -- Mixed Use Street

Ground Level

As pedestrians enter the site, the paving directs them into the game. Once inside the game many ramps and stairs are located near the entrances to give people a clear idea of where to go. Concessions, bathrooms, ect. are located underneath the seating areas. Retail, residential lobby, and office lobby line the street to activate the block. Deliveries to the stadium and parking garage entrances are located in the southeast of northeast side of the site. At this level the tailgating area can be seen. This space is to be open to the greatest extent possible. Only a small number of people will be able to park in this area, but entrance into this area will not be controlled. The entrance to this area is from the north. Voids are cut in the plaza level above to bring as much light into this area as possible. Also, vine wells are placed in these areas to create a more nature focused area. Three of the four entrances into the stadium are at this level. The structure of the stadium meets the ground at this level. To the south the street structure meets the ground as a concrete pin connection. This concrete piece is designed to be shaped like a bench so no street benches have to be added to the sidewalk. The west, north, and east structural pieces meet the ground and make rigid connections with large concrete column pieces. These concrete columns have been oversized to accept the structural load of the stadium as it meets the ground. It is my intent that this scheme would activate the street while opening the stadium up visually to the outside so it becomes a part of the community. The retail space on this level is quite generous, giving ample space for shops, neighborhood grocery stores, or restaurants. From Anywhere on the street the structure of the stadium is present giving a strong sense of the function the site possesses. Also from two vantage points (northeast and northwest) pedestrians can actually see into the stadium and get glimpses of the playing field.



Elevated Plaza Tailgating

Circular and Triangular holes are cut into the elevated plaza to let light fill the open space below. Vines grow on structural framing that extend from 10' above the plaza to the ground floor of the area below bringing nature into the area. This area will be reserved for tailgating before and after the games.

Plaza

Structure from the team area below pushes through the plaza located on the west of the site to create the compressed formal entrances guiding people on their way as they enter into the game. The diamond shaped glass block mimics the profile of the structure below grade and brings light into the spaces below grade. The multicolored concrete pavers making up the plaza floor were designed to mimic the way people will move through the site. This landscaping continues across the street signaling to other pedestrians the significance of this site.

Club Box

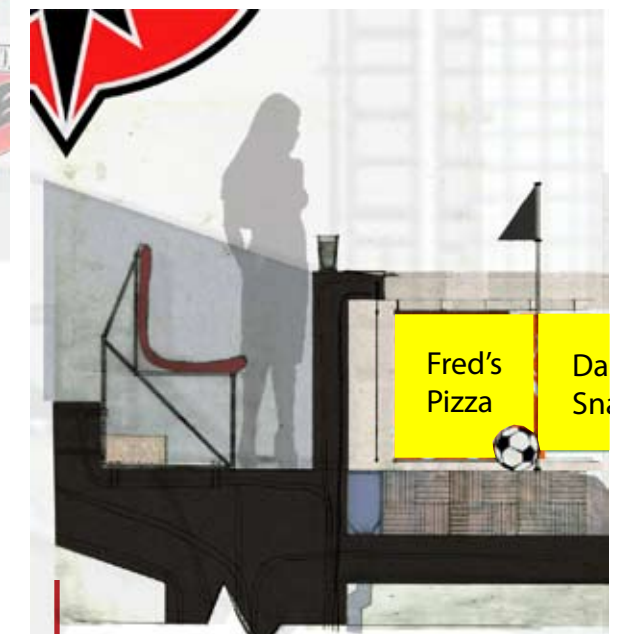
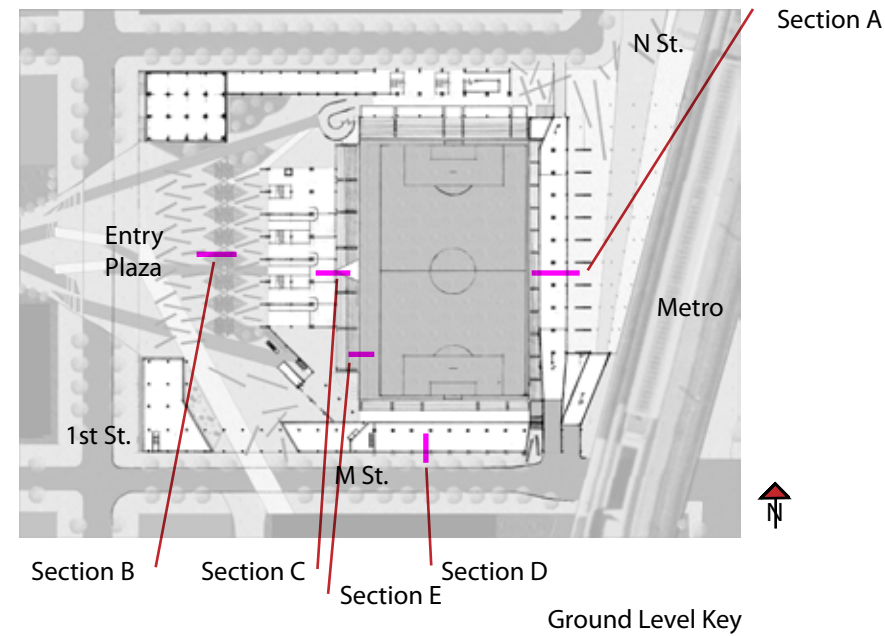
The barrier between the club box and the field is formed to respond to the structure of the stadium to create a table area for drink and food. These are the prime spaces for viewing the game. A majority of club boxes are located on the west side so the fans will not have sun in their eyes.

Retail

The concrete that makes up the pin connection for the stadium's structure is shaped to form a seating area for the street. There is no longer a need for street benches because this has been provided for in this detail.

Seat-Field Transition

This concrete barrier comes out of the concrete structure of the stadium and forms to hold the advertisements that typically line a soccer field. No longer will advertisements be an afterthought because their places have been considered here. The seating is located close to the field to give an intimate setting for fans watching the game.

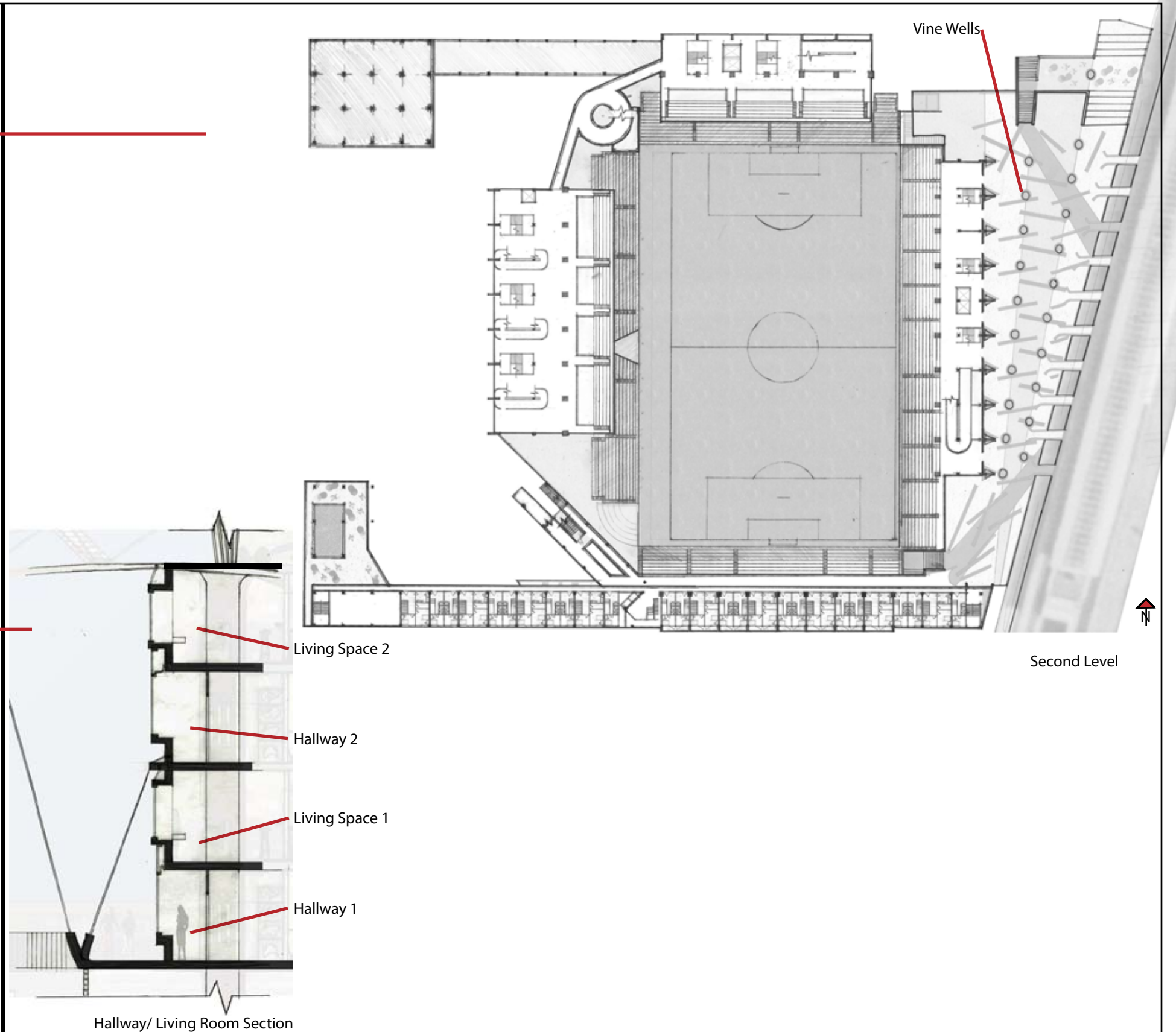


Second Level

This floor is the first level of each living unit. The units stretch the length of the street making this a strong residential street. This is also the level of the elevated plaza, and pedestrian path. The elevated plaza is located directly beside the metro. The metro is connected to the elevated plaza by nine small bridges. Under each bridge is the metropolitan branch trail. Once pedestrians enter the elevated plaza, they are ushered into the stadium by the voids open to the tailgating area below. To move to grade from the elevated plaza, pedestrians have many different options. There are stairs to grade located at the northeast and southeast corners of the field. There is also a stair centrally located on the northern side of the plaza connecting to the street moving north as the stair hits grade. Two elevators are located at the northern end of the elevated plaza for handicap people. The final option is for people to walk west along the pedestrian path and take either the ramp or stairs down to grade. There is an amenities room at the west end of the residential floor with rooftop access on the roof outside. The hallway on this floor becomes a viewing area for people without a view from their unit.

Two Level Units

Each unit is two levels, which cuts down on the necessary amount of hallway space needed. As seen in the section, the living rooms are on the second floor and are located directly over top of the hallways. The living space and hallways point north toward the field, giving the dweller the best seat in the stadium. The exterior wall of this section bumps in and out creating spaces for people to sit or place drinks as the hallways become viewing areas for people living in the building without a view from their room.



Hallway/ Living Room Section

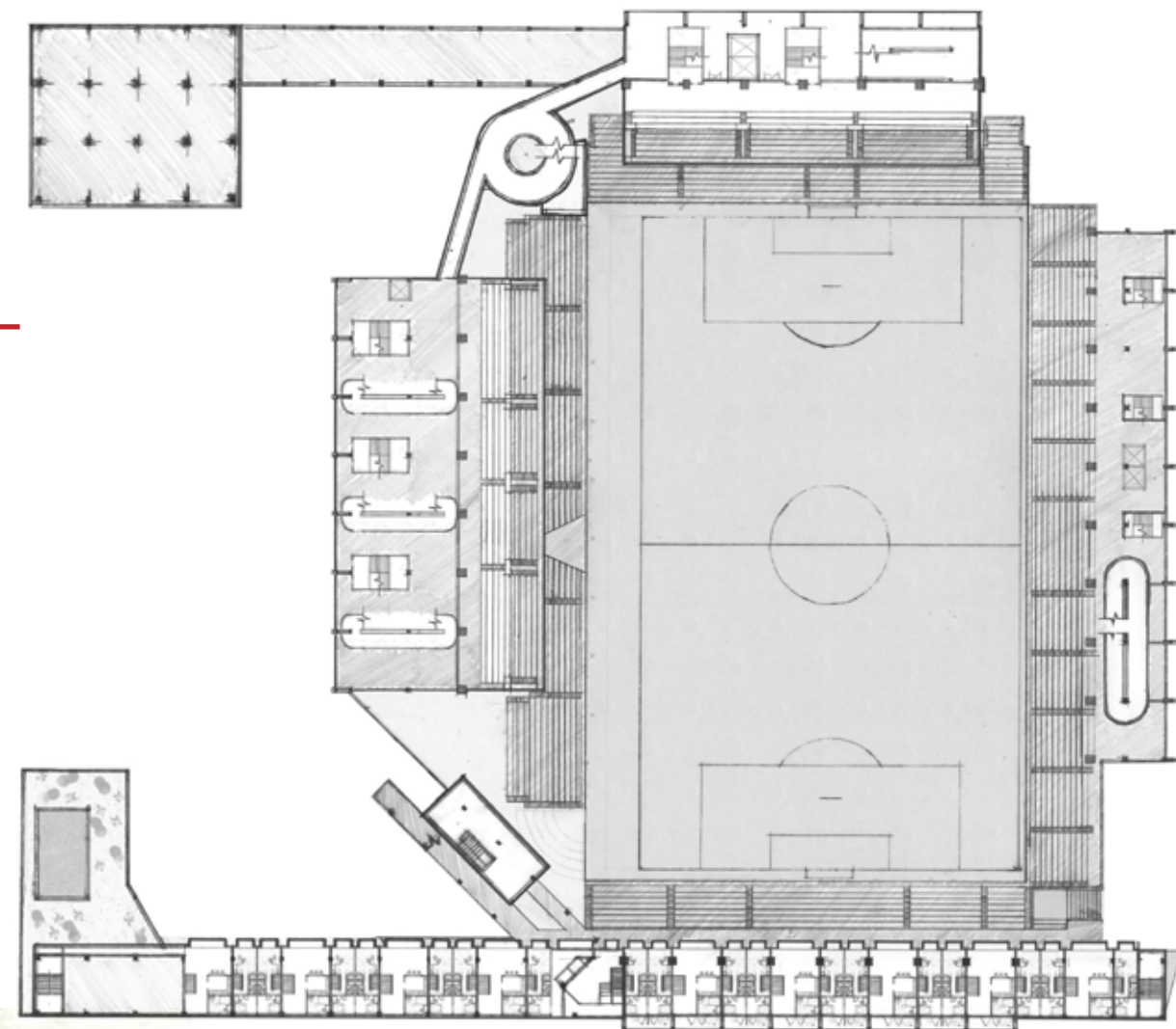
Second Level

Third Level

The third floor becomes the second level of each living unit. Because the living units are two levels each, there is no need for a hallway at this level. Also, there is no seating at this level of the east stands so that train riders can see into the stadium as they pass by. At the west end of the pedestrian path, the path rotates north and there is a terraced lookout for the public outside of the controlled entrance to the stadium. This provides an area for a small number of people to view the game without tickets to the event. Also, in the northwest corner of the field there is a circular ramp moving people quickly up and down to their seats. On the side facing the field there is a viewing area built on so that people can stop to watch key plays as they move up the ramp to their seats. No long do fans have to miss big plays because they are walking to their seats.

Southern Balcony

The balconies for the bedrooms are built into the structure of the stadium taking advantage of the curved design of the stadium's structure. The balconies face south and take advantage of sunlight. Also, built into the structure is a shading system so you can control the amount of sunlight that is admitted into your bedroom. The opening and closing of this shading device also creates an ever changing, unique rhythm in the facade facing the street.



Third Level



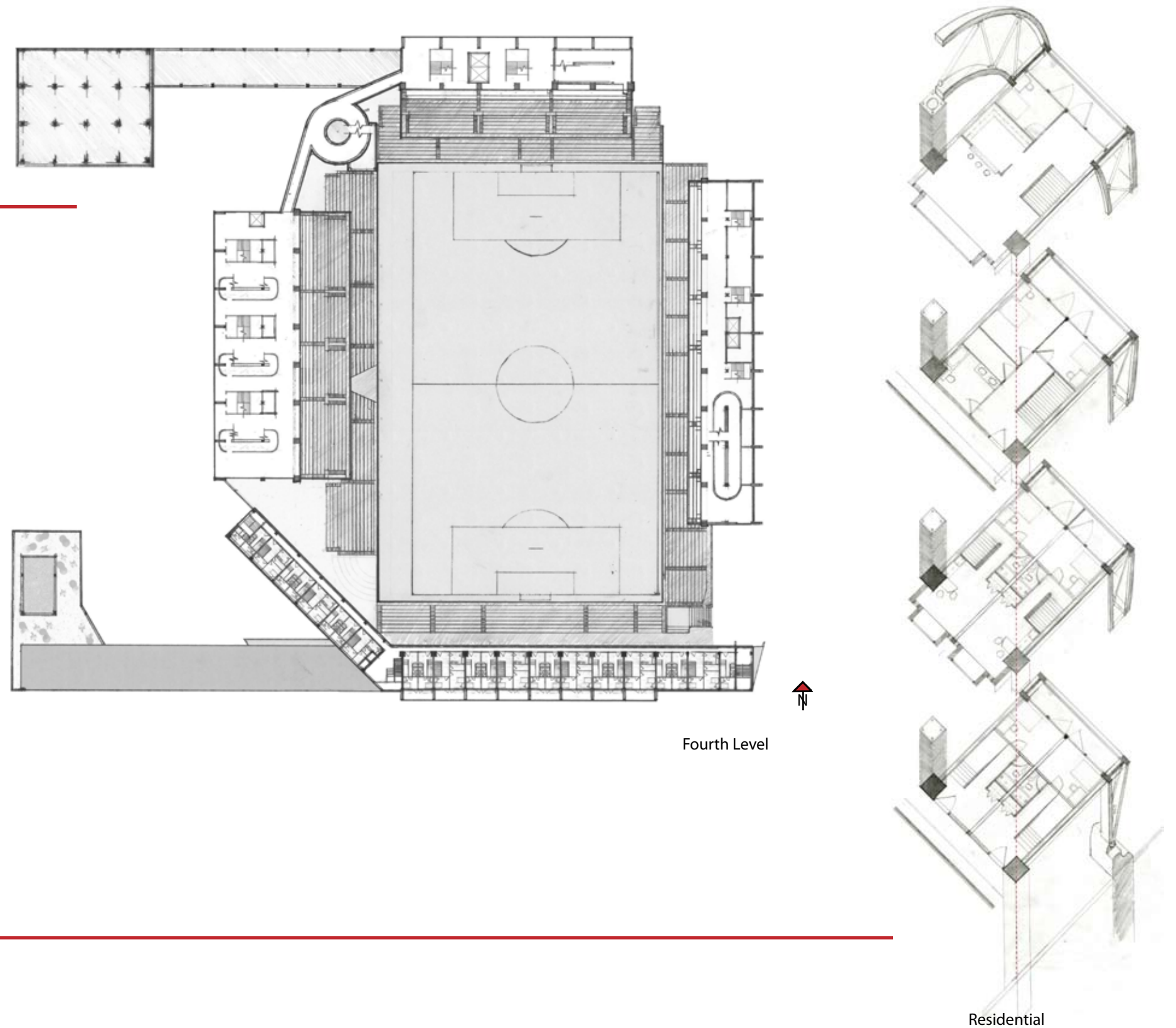
Balcony Section

Fourth Level

This floor is the first level of the highest set of living units. At this level the residential floor rotates north at a 45 degree angle covering the pedestrian path and focusing more units toward the playing field. This decision we made to create a more enclosed atmosphere within the stadium. It also gives more units the opportunity to see onto the playing field. This level is also the beginning of the highest level of seating for the east stands.

Variety of Unit Types

As a part of this study it was my aim to create a place to live for varied income levels. The way to do this was by varying views to the field, the square footage inside the unit, and balcony size. The exploded axonometric is a study for how two different generic unit types would fit into the structure of the stadium. The basic idea with the layout of the units was to place the bedrooms on the southern side to take advantage of sunlight and placing the living space near the field so you can watch a game from the living room. By developing different unit layouts that fit into the same module, it was easier to start thinking about how to get a better mix of units in the building.

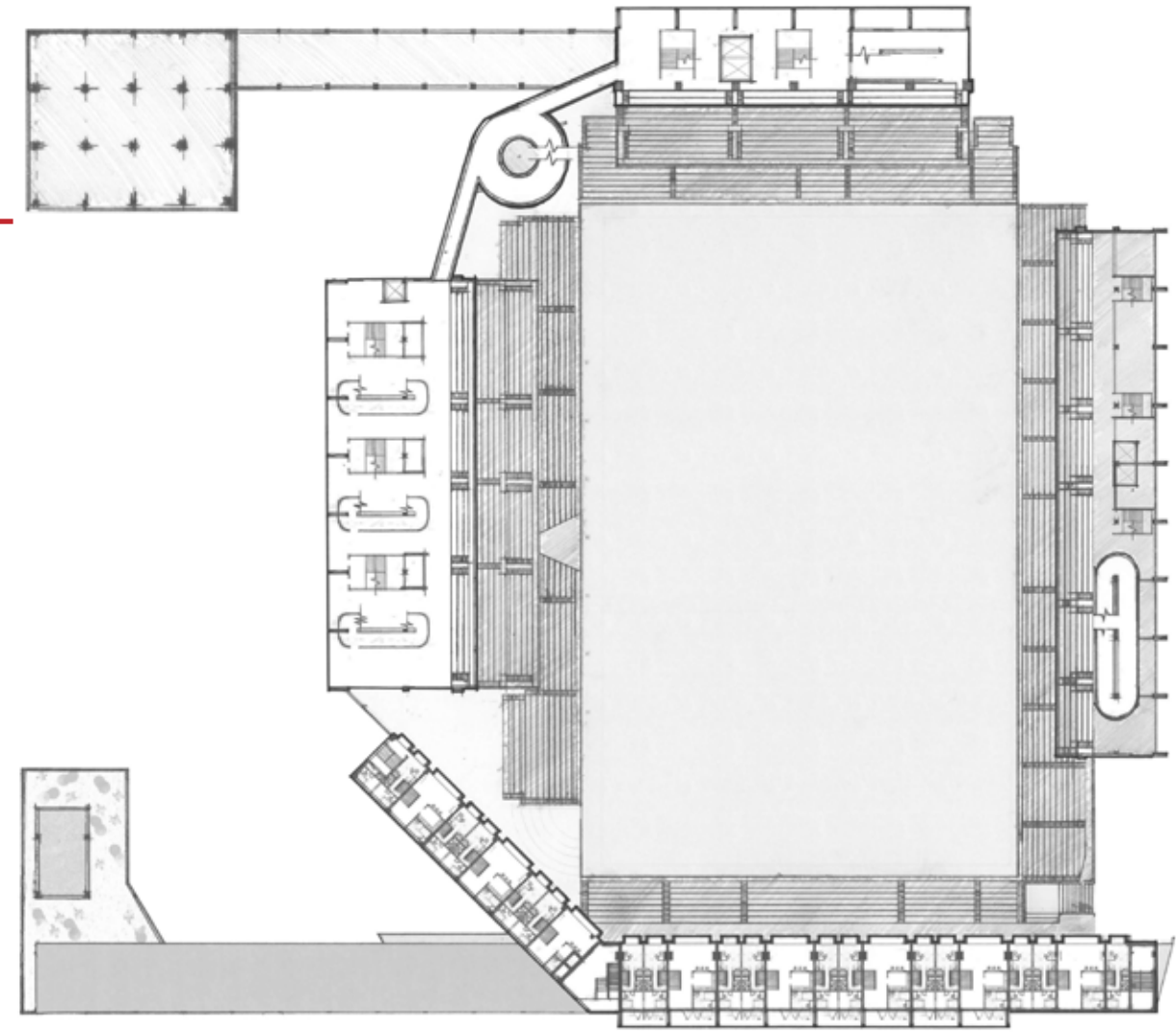


Fifth Level

The fifth floor becomes the second level of the highest set of living units. This is also the beginning of the highest area for seating in the North and West stands. There are no platforms above this level for entry into seating levels in any of the stands. The highest seats in the East stands are located at this level.

Variety of Unit Types

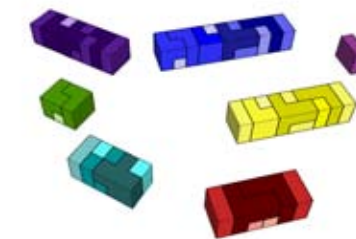
The color coded axonometric shows how units of varying sizes could fit into the scheme. Each main color represents a cluster of roughly an equal number of below market rate and above market rate living units. As diagramed, about half of the units would be at or above market rate while the other half would be below market rate. It was very important to me that this building has many different economic levels living in it. To me this is the only way to ensure a community that isn't monotonous.



Fifth Level



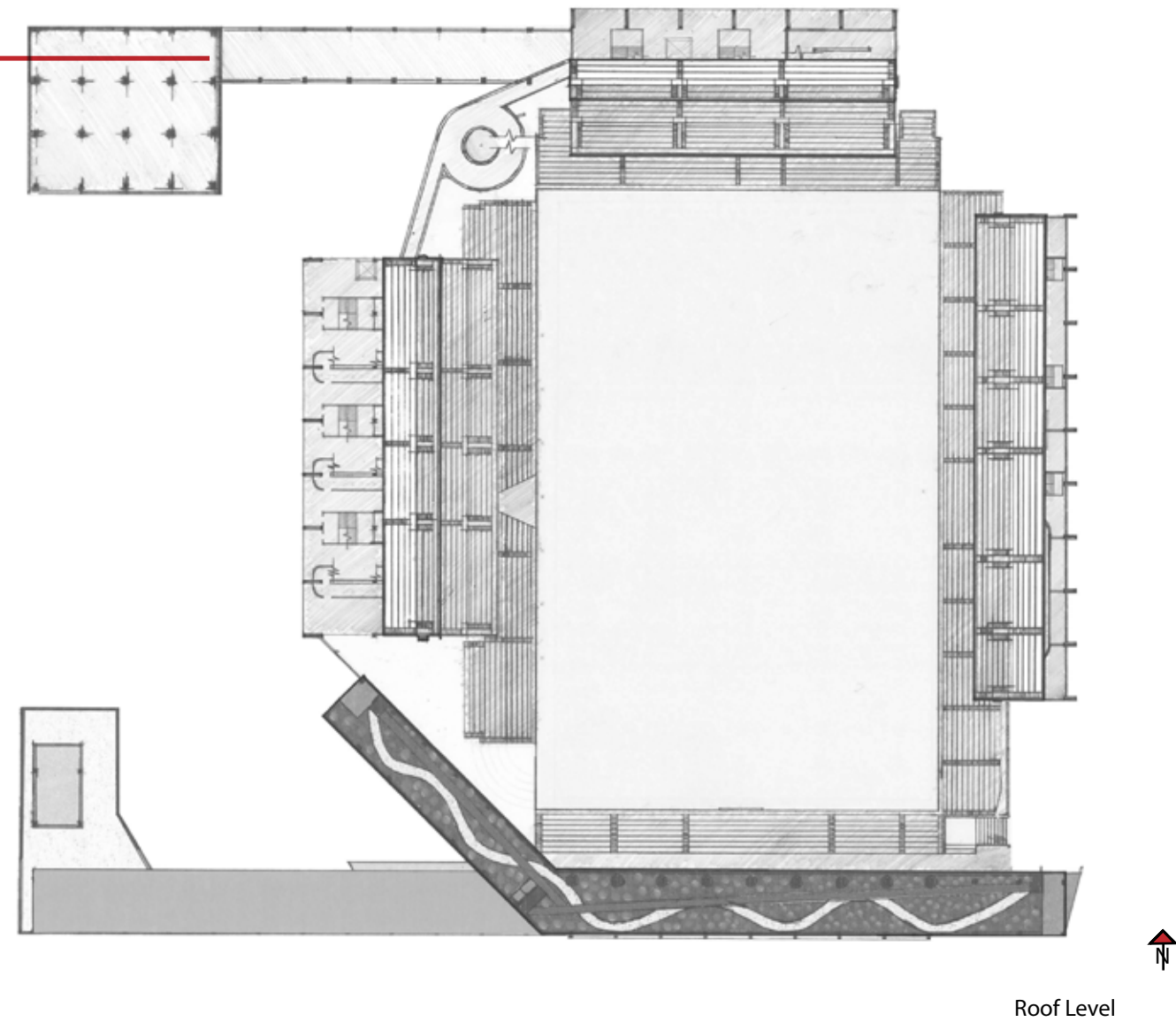
Residential Unit Variety



Residential Unit Variety Diagram

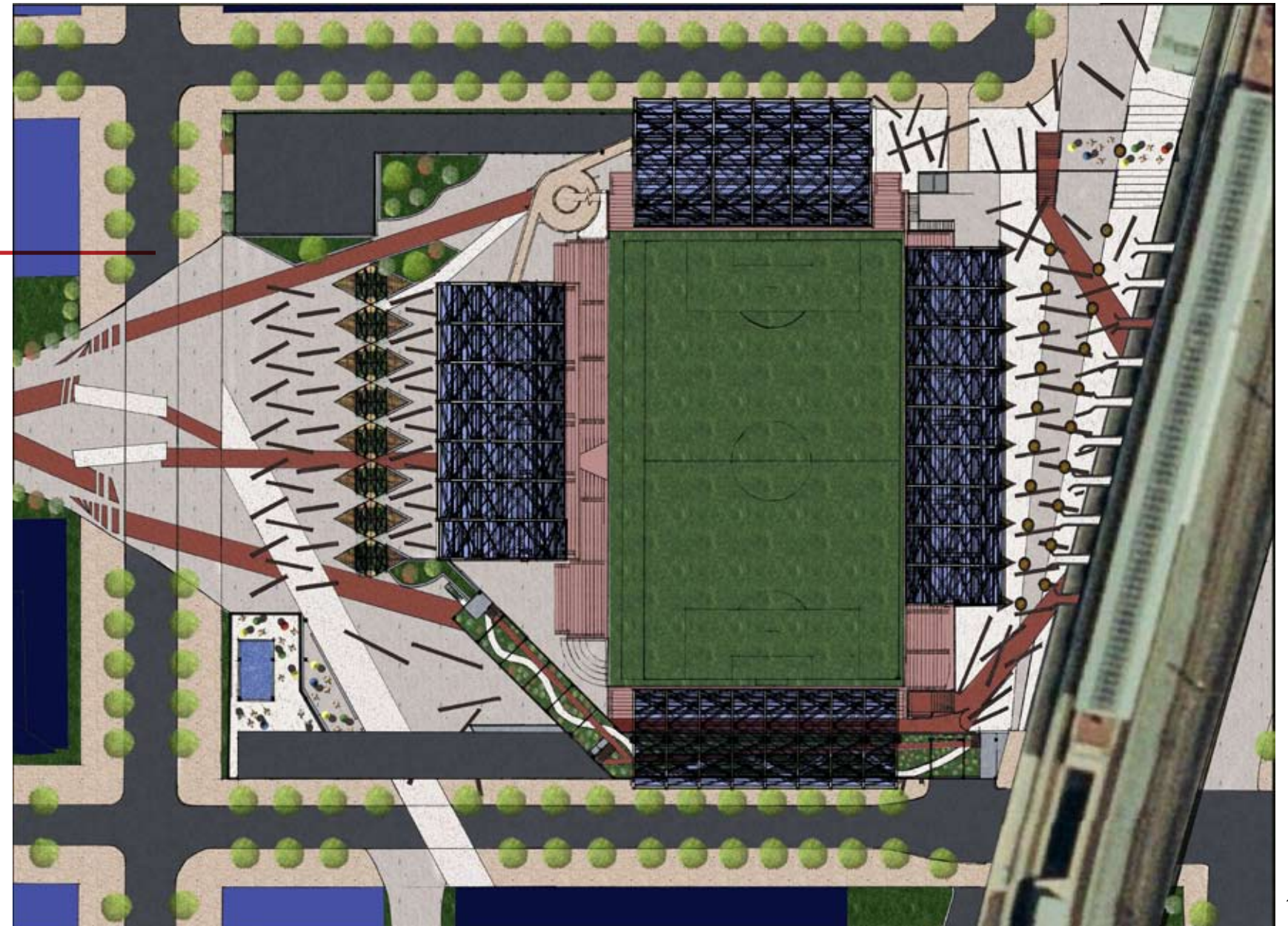
Residential Roof Garden

At this level we see all of the seating in the stadium as well as the roof garden for the residences. This roof garden is special because in certain places it is covered by the roof structure while in other it is open to the sky. The roof garden will help with drainage for the site because it will be able to retain water until it evaporates, greatly reducing the amount of storm water that will need to be stored and treated. This roof garden is seen as a refuge from the city and a special place to watch the game. At most stadiums these seats at the highest level are seen as bad seats to watch the game. This stadium is positioned so that fans sitting at the top of the north and east stands get amazing views of the capital. These is an added bonus for fans who watch the game from high up.



Stadium Roof

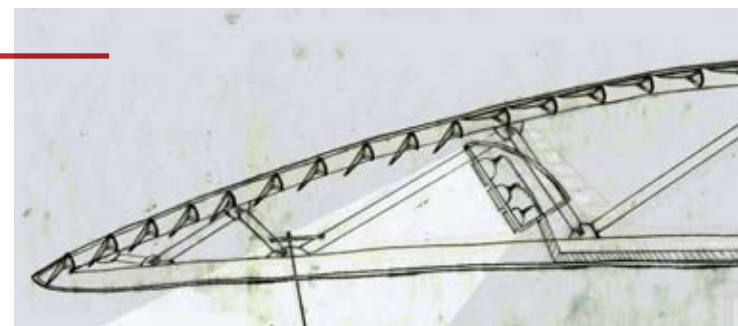
The roof of the stadium is primarily used to shade as many spectators as possible without letting those shadows hit the field. The north, east, and west roofs are at a slightly higher level than the south roof because its structure has been scaled down to respond to the residential component. The stadium's shading system connects to the stadium's structure making the roof for the stadium. The stadium's lights also connect into the structure of the stadium.



Stadium Roof Level

Stadium Shading Canopy

The structure of the stadium has an operable shading system much like the system described for the residential balconies. The individual pieces can move to let more or less sun hit the field and fans. When operated correctly, no shadows will hit the field during game times. There is also lighting built into the structure of the stadium for night games.



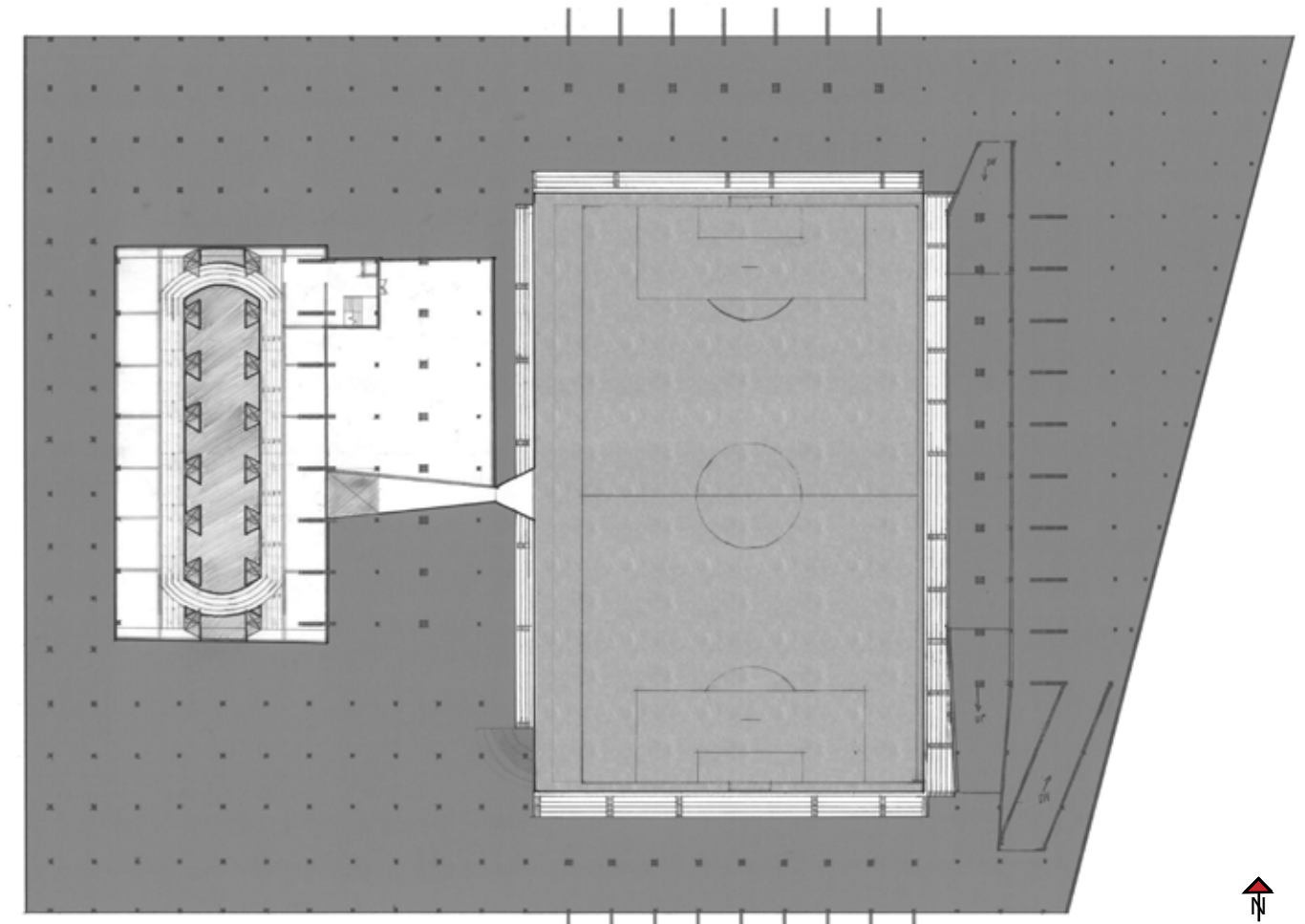
Operable Shading System
Stadium Lighting

Field Level

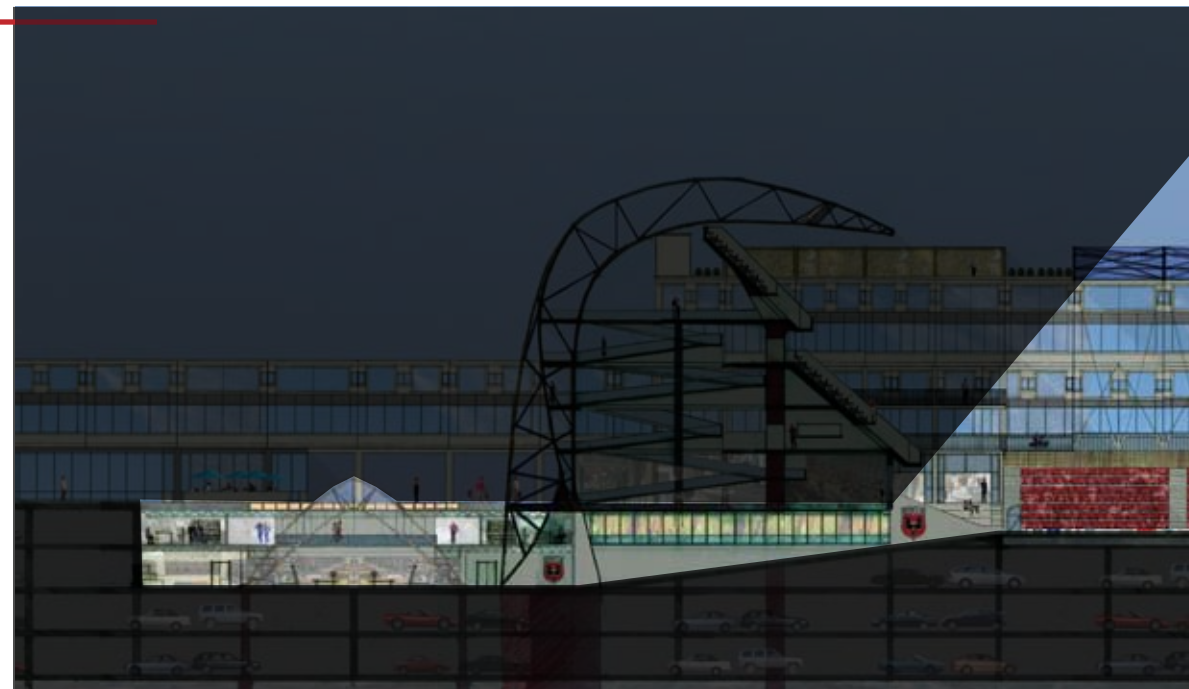
This level is one level below grade and is where the field lies. Seating on all four sides of the field begins at this level. Back of house functions as well as parking are all present at this level. The only habitable space at this level is the team area. Within the team area on this level, along with the level below there are these huge steel structural pieces that hold up the plaza above and open up the team area at this level. The plaza above is made of glass block so ample light spills into this space. At this level the track, which plugs into the structure, wraps around the entire length and most of the width of the space. The middle of the track is open to the work out area below. To the sides of the track are the offices for the team staff. The idea here is that the staff can keep a watchful eye on their players as they train. Between the field and the team area is a tunnel that takes the players to the game. To the north of the tunnel there is a large open area that could become a ballroom or meeting space. This could be a fun place to watch the team as they move toward the field for the beginning of the game.

From Training to Game time

As an attempt to find an architecture of a home field advantage, much consideration was given to the way the team enters onto the field. The team starts in their own meeting area, passes through the training area reminding the team of what it took to get where they are. Then the team moves through the tunnel, first being released into a tall wide tunnel, then as they move towards the field the tunnel becomes shorter in height and narrower in width symbolically compressing their focus on the game. As they arrive to the field they are get released out onto the field and "game time" symbolically begins. This was seen as a strong way to use the architecture of the space to transition the players state of mind to a game time mind set.



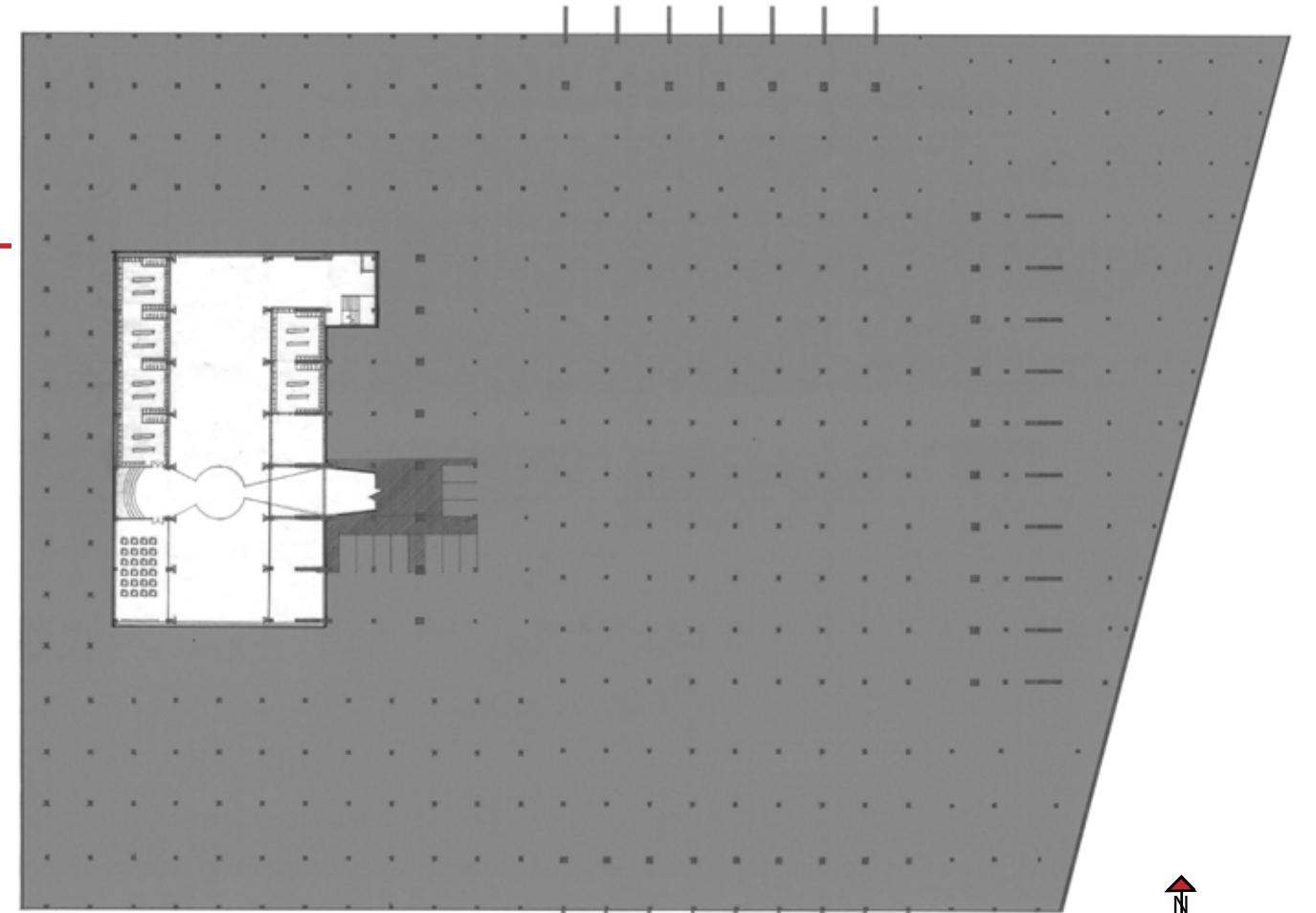
Field Level -- Below Grade



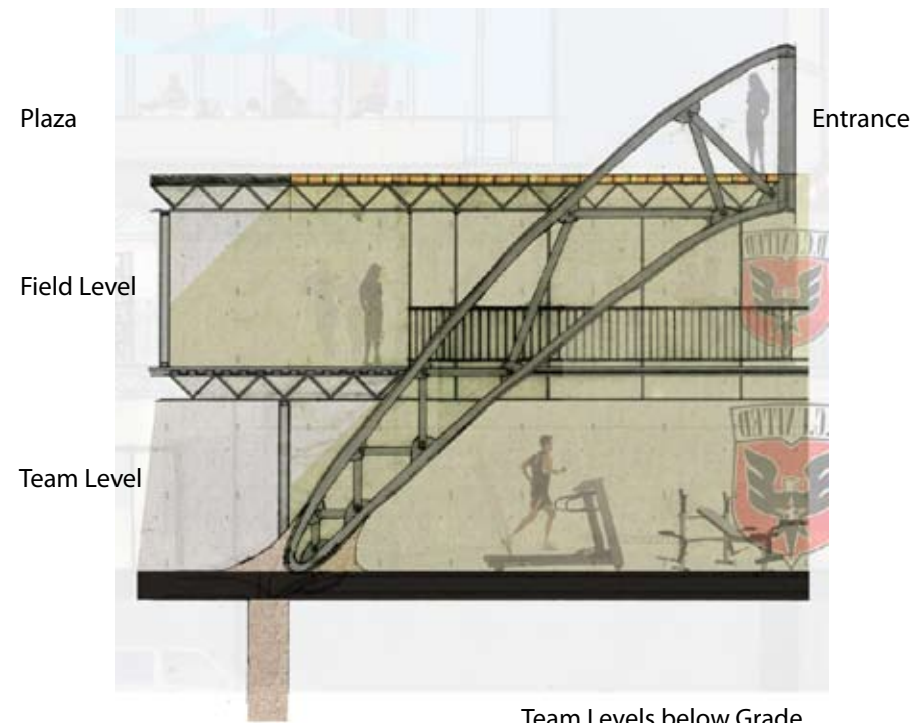
Path to Field

Team Level

This below grade floor is the lowest level (not including two lower levels of parking). Located at this level is the team's training facilities. This area is a two story space (including the field level above) filled with light from the translucent plaza above. The structure of this space holds the plaza above and signifies the entrance to the stadium as it cuts through the ground. The home locker rooms and team rooms are located along the west side of this level. This is so that the team must pass through the training area on its way to the field to play the game. It is my thought that this ceremonial passage to the game is a brief moment of reflection before the game starts. It will be beneficial for players to remember all of the training they have put in to get them ready for the game. The away locker rooms are along the east side of this level.



Team Level -- Below Grade



Team Levels below Grade

East Elevation

This elevation shows the relationship of the residential element and north stands to the field. Here you can see the views one would have from their living room. You can also see where the pedestrian path cuts between the stadium seating and the residential to the south. The metro station can be seen in the background because the west stands have been offset higher than typical to open up views into the stadium. One can start to understand the relationship to the buildings across the street. Though a stadium is typically large in nature, this stadium seems to fit into the current setting. At the corners of the field are the stairways between the elevated plaza and grade. In this section you can see that the structure makes pin connections at grade and connects back into the concrete structure at the top of the seating.

South Elevation

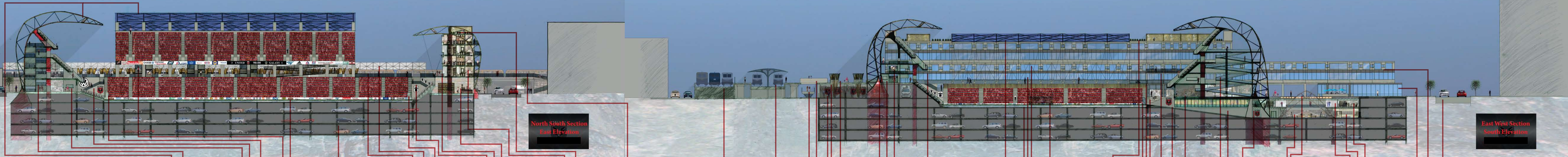
This section shows the relationship of the east and west stands to the field. You can see the close relationship of the metro station to the field. Note the tailgating area below the elevated plaza. The team area below the ground is to the west which the tunnel connects to, ushering the team east to the field. In elevation you can see the strong residential presence and its relationship to the field. The facade reveals the functions that happen behind. The hallways are located where the facade is a continuous storefront of glass. The living spaces are located behind the square and rectangular window spaces. Larger living rooms are behind the larger rectangular windows while smaller living rooms are behind the smaller rectangular windows. These large windows become the "TV's" for the residents as they can see them game from their living space. In these sections you can also begin to understand the structural system. Large steel structural systems connect back into concrete at the bottom and at the top of the highest level of seating. Notice the Buildings to the east and west. The stadium becomes a transitional element between the larger scale office in the west to the lower scale residential in the east.

North

South

East

West



North South Section
East Elevation

East West Section
South Elevation

The Stadium East & South Elevations

- Pedestrian Ramp
- Structure and Shade
- C concessions
- Stairway Between Grade and Elevated Plaza
- Goal
- Field of Play
- Exaggerated Height For Train Riders View Inside
- Underground Parking
- Goal
- Metro Station Beyond
- Elevated Plaza Beyond
- Ground Floor Retail
- Elevated Pedestrian Path
- Stairway Between Grade and Elevated Plaza
- Residential
- Rooftop Garden
- Bike Path
- Train Tracks
- Metro
- Bike Path
- Metro to Plaza Bridge
- Elevated Plaza
- Vine Wells
- Tailgating Area
- Ramp
- Concessions
- Formal Metro Entrance
- Structure and Shading
- Exaggerated Height For Train Riders View Inside
- Field
- Goal
- Rooftop Garden
- Bench
- Residential Living Room
- Pedestrian Path
- Residential Hallway and Gathering Space
- Corner Meeting Space
- Club Room
- Tunnel Release
- Terraced Outlook
- Stadium Ramp
- Tunnel Release
- Tunnel Compression
- Formal City Entrance
- Training Area
- Office
- Locker Room
- Track
- Street
- Residential
- Retail

West Elevation

This elevation shows what the stadium would look like at night. Notice the way the residential rotates to look into the field with the terrace level below. Also, you can see the ramp in the north corner of the field with the viewing area attached. The view area was developed for people to take a break as they walk up the ramp so they don't have to miss a big play. The corner on the southern side of the field is an area that terraces down to the field. It is my thought that this could be a meeting area inside the stadium. Also, in this elevation you can see the club boxes. These are the glassy areas at grade, above the lowest level of seating. There are three groups with two club boxes each giving a total of six club boxes in this elevation.

North Elevation

This elevation shows what the stadium would look like at night looking north. This view gives a second perspective of the ramp area in the west corner of the field and the stairs in the east corner of the field. In this elevation you can also see four more groups of club boxes. There are two each giving a total of eight club boxes in this elevation. Also, notice the light as it rises from the team area below on the western side of the site. The stadium truly taken on a different characteristic at night. A lively characteristic that few buildings can compare to.

South

North

West

East



North South Section
West Elevation
Scale: 1" = 10'

East West Section
North Elevation
Scale: 1" = 10'

The Stadium West & North Elevations

- Retail
- Residential Balcony
- Stadium Lighting
- Terraced Overlook
- Elevated Pedestrian Path
- Corner Meeting Space
- Underground Park-
- Club Box
- Team Tunnel
- Circular Ramp
- Viewing Area
- Ramp
- Street
- Stadium Structure
- Street
- Formal Entrance Plaza
- Locker Room
- Underground Structure
- Ballroom
- Ramp
- Viewing Area
- Circular Ramp
- Concessions
- Club Box
- Underground Parking
- Stair from Grade to Elevated Plaza
- Stadium Lighting
- Ramp
- Elevated Plaza
- Vine Well
- Tailgating Area
- Bike Path
- Metro
- Bridge from Elevated Plaza to Metro
- Train Tracks



Summary

This thesis was done as a study into what a stadium can do for a city. As we have seen, we have used our stadiums to create places with an absence of anything of value. No longer can we do this. We have also seen how we can use the stadium to create a monumental focal point for an area, full of active public space, and a mixing of varied uses. Only if we do this can we hope to use our stadiums as the integral piece of urban planning that they were meant to be. With the symbolic importance of the function that they contain, it is irresponsible to ignore the possibilities a stadium presents to the city.

The End

Acknowledgements

Thank you to my Lord and Savior Jesus Christ.
Without you, I am nothing.

Thank you to my fiance for her love and understanding,

Thank you to my Family and Friends for their Support,

**Thank you to my Committee for their Knowledge, Dedication, and
Contribution to my Education.**

I can do all things through Christ who strengthens me.
Philippians 4: 13

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Images: Note: All drawings, diagrams, and book design by Kyle Kramer.

1. Photographs taken by Author: Kyle Kramer

2. Google Earth, 2008

3. WorldStadiums.com, 2008