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Tom Wagner on Storm Water 2-6-09

Restore Downtown to Useable Space

In Springfield:
- Total width of channel: 80ft.
- Total width of existing channel: 20ft.

Department of Natural Resources (DNR) has clean site standards

There are usually unhealthy bi-products from contaminated soil from train yards

FEMA can give funding for pre-mitigated storm protection like for tornado structures or flooding.

Flood Plain Mitigation money could be used to buy up land.

Tulsa received $80 million in FEMA money.

In Springfield:
- River basin saves river flow by 20%.
- Each basin cost about $500,000 dollars.
- Agriculture land is relatively cheap, especially when compared to city land.
- Detention Ponds

Trails need to be at least up to the 2 year flood plain, otherwise they become a maintenance issue and people become upset.
- If it floods every 5 years then there is no big deal

Try to get trails near the water so that it becomes a nice amenity.

Safety Precautions of flood water:
- Low velocity of water
- Not too deep
- There should not be a large drop off

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Terry Whaley on Trail ways 2-8-09

Air Quality
- 90% of where we drive is only 3 miles away from our house which is a bike-able if not walkable distance.

Top Household Expense:
1. Mortgage or Rent
2. Transportation

Trails are an integral part of the transportation network and save the user gasoline and vehicular repair costs.

How do you build trails through the built environment?
- Destinations
- Departure points
- Contours
- Utility Easements
- Conditions of the Streets and Sidewalks
- Readapted designs of the Streets

The cost of building a trail:
- $15 dollars a linear foot for wood chips and volunteer installation at 6 ft. wide trails
- $25 dollars for asphalt at 10 ft. wide trails
- $55 dollars for concrete at 10 ft. wide trails

Hard surfaces:
- Does not wash away
- Good for
  - Rollerblades
  - Skateboards
  - Wheelchairs
  - Strollers
- Citizens prefer walking on smooth, level ground
- Concrete can last 30-40 years without needing maintenance

In order to receive Federal Grants:
- The trail ways should be treated like a highway and have entrance and exit ramps
- Money can be funded by
  - Parks and Recreation
  - Transportation Department
  - Flood Plain Mitigation
  - Health Department
  - Recreation Trails

RESOURCES

Olivia Hough on Brownfields 2-20-09

Brownfields are funded through Environmental Protection Agency (EPA) grants.

1. Decipher environmental concern
2. Determine steps needed to clean up to the specified standard
   -Residential has the highest level of cleanup.

PHASE 1
- Get assessment prior to purchase of land
- All Appropriate Inquiry

PHASE 2
- Often required for property near rails
- More expensive and invasive
  - Soil and ground water samples
  - Asbestos and lead paint samples

Clean up costs can be up to $200,000 dollars per site but can apply for a waiver up to $350,000 dollars

Buildings on sites are included in Phase 1 and asbestos checks can be asked for with little to no extra costs at that time.

FEMA approved permit needed for building in flood plain.

State of Missouri Brownfield Tax Credit in which cities are eligible
- City would need to hire a Brownfield tax specialist
- Someone would have to pay for the cost up front

Monett could apply for a Brownfield Voluntary which would give the city technical oversight and a certificate of completion once the clean up was finished. This process can take up to 2 years but is worth it in case of any lawsuits about health from a site.

Other funding can come from EIERA which is a branch of the Department of Natural Resources. The city could receive:
- A revolving loan fund for clean up
- Deferred loans at about 3% interest
- A Non-profit could get clean-up funding

APPENDIX

Mike Kromrey on Watershed 4-24-09

Key to watershed is education from City Hall
- Tell why and how to fix flood issue
- Tell them again and again

A forest can soak up an inch of rain an hour

USGS
- Aquifers raise and lower
- Joplin expected to run out of water in 2015-2020
- Monett relies on well water

Water efficiency is water conservation!

A watershed is an area of land that drains a body of water. Small watersheds drain into larger watersheds which can then become overwhelming and cause flooding.

Monett must:
- Slow water down to recharge the area
- Implement legislation to minimize development
- Utilize low impact development techniques

A relationship with Nature is Healthy and Crucial.

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Spray Parks or Spray Grounds:
Spray parks, which sometimes are called “spraygrounds” or “splash pads,” are gaining some welcome attention from developers and city planners throughout the world. These spray ground operate via a manual or sensor-activated controls which enable residents to enjoy an extended operating season for water oriented features within the city from late spring to early fall.

Spray parks appeal to a wide age range because children don’t have to be great swimmers to enjoy the benefits of the spray park.

From the tiniest toddler to a 12-year-old adventurer, and even those using wheelchairs, children of all ages and abilities can enter with equal enthusiasm.

A Safe Play Environment:
For parents and caregivers, pools can be worrisome play destinations. Whether supervising an unsteady toddler in a baby pool or keeping track of offspring in a crowd of youngsters wearing nearly identical swimsuits, relaxation may not be an option for adult chaperones at the neighborhood pool.

Spray parks offer play areas featuring jet streams, fountains and various sprayers that allow children to cool down in a fun yet safe environment. Water is drained away before it can accumulate, reducing drowning risks and potential panic among parents. Caregivers and parents can stay seated on the sidelines, and still supervise play. These spray parks are very sustainable with their water usage as the water used is generally filtered and re-dispersed during subsequent usage.

Detention Basin:
The purpose of a detention basin is simply to reduce flooding by storing and slowly releasing water. Some basins also improve the quality of the water by trapping sediments.

Improving Water Quality with Basins:
Extended Detention Basins: These are designed to collect runoff from smaller, more frequent rainfall events and release the runoff over a longer period of time.

Permanent Pools:
Provides water quality improvements because when the inflow of runoff water mixed with the water in the permanent pool zone the sediment gets trapped and stays in the pool instead of washing through or into the storm system.

Forebays:
These elements of detention basins serve as pre-treatment areas that drain into larger basins. They allow the course sediment to infiltrate and be trapped in the forebays before entering the larger basin and in return increase the lifespan of the larger basin.

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Water Quality Device:
An outfall device, typically consisting of a perforated plate or pipe, which regulates how much water exits the basin. These pipes are arranged in a manner to control the holding time and release of the water in the basin.

Gabion Basket Walls:
These retaining walls are an alternative to concrete or concrete block walls for creating a vertical drop in slope. They are made out of wire in the form of cages and are about the size of a rectangular hay bale. Rock fill is placed within each basket and the basket is sealed shut.

Benefits:
- Allow rock fragments from site development to be used in a way that benefits both the environment and the community
- Allows storm water to percolate through the wall
- You can also use vegetation in combination with these basket walls to create aesthetic beauty along a path or garden area

Native Vegetation:
- Benefits of Native Plants
- Adapted to natural, local, and environmental conditions
- Require little or no irrigation once established
- Many are long lasting perennials
- Resistant to pests
- Deep roots aid water infiltration and reduce runoff
- Provide habitat for wildlife; especially butterflies and hummingbirds
- Help stop erosion
- Absorb pollutants like sediment and excess nutrients (fertilizer)
- Winter hardy and drought tolerant
- Help create biodiversity

source: www.watershedcommittee.org

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Porous Pavement:
The primary reason why pervious pavement is rapidly gaining in popularity is for the fact that when it rains, the water drains directly through the paving through to the surface of the ground and eventually into the water table. Since the early use of porous pavement contractors have been able to define ways to make this material more attractive and more decorative with the addition of color and increased attention to texture details.

Environmental alternative:
Traditionally, anything that is paved for pedestrian and/or vehicular use is paved with concrete or asphalt. This material can be very expensive but what costs the most is the extensive need for large storm drains and retention basins. Water cannot penetrate traditional paving thus the run-off from this pavement helps to increase the potential for flooding. As these sheets of water move across the surface the first flush of water washes contaminants from the pavement into the storm system and contributes to downstream pollution.

There are ways to avoid these problems and environmentally aware designers and builders are increasingly using pervious pavement to do so. Also, referred to as porous pavement, pervious pavement allows surface water to drain through an open-pored concrete and into the soil below. This not only avoids problems with run-off, but also allows rainwater to percolate into the soil, where it can recharge groundwater and benefit nearby landscaping. Most pollutants entering the pavement are removed by filtration in the pavement's base course or digestion by microorganisms in the soil. Additionally, the pervious concrete allows air to infiltrate the soil, making it practical to pave under the drip line of trees without suffocating them. For these reasons, pervious pavement has been recognized as a Best Management Practice for storm water management by the U.S. Environmental Protection Agency. Pervious pavement can also help meet the storm water management criteria of the US Green Building Council's Leadership in Energy and Environmental Design. Pervious paving is being utilized for greenway trails and in areas where paving in the past was not recommended. By reducing the surface area of the traditional concrete within certain areas of the city you will began to see a major decrease in the amount of water ending up in the storm water drainage basins.

Aesthetic considerations:
After more than a decade of experience with pervious concrete in the United States, builders now have enough confidence in the product that they are starting to pay attention to its aesthetics as well as its function.

Color, for example, has become an important pervious pavement design element. In visually sensitive areas, natural earth tones can be used to help pavement blend in with the surrounding landscape — whether it is a parking lot in a public park, a path through a garden, service lanes cutting across a lawn, or a

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driveway in your own front yard. Alternately, the use of a complementary or contrasting color can help a pavement stand out — this can help visitors locate an entrance, improve the visibility of roadway shoulders and traffic islands, or create separate vehicular, pedestrian, and bicycle lanes.

Coloring Pervious Pavement:
Texture and pattern: Pervious concrete has a rough, open texture that has been compared to a rice cake. Color may be more pronounced because the rough texture reduces the glare associated with conventional concrete pavement. The size and shape (round or angular) of the coarse aggregate in a mixture are significant visual design variables. Pores in pervious concrete can become filled with silt and other particulate matter. This can affect appearance, particularly if the fill is deeper in some portions of the slab than in others. Periodic vacuuming or power washing will restore the appearance of the pavement as well as assure its continued ability to drain.

As with any concrete, surface wear can erode the cement paste from the surface of a pavement. When this happens, exposed aggregate can have an effect on the pavement's appearance. So far, experience has shown that the erosion due to traffic is not significantly greater in pervious concrete than it is in conventional concrete so long as it is not used in areas of high-speed traffic. On the other hand, erosion due to water is reduced because liquids enter the pavement instead of draining across the surface.

Other design options:
Pervious pavement can be combined with conventional concrete pavement to create visual interest. For example, tan colored concrete borders can be used around panels of pervious paving in a complementary color. Slightly grinding the surface of cured pervious pavements removes prominences to reduce the roughness of the concrete for improved walking comfort and less road noise. The depth of the grinding and the color of the aggregate have an effect on the pavement's appearance.

Where the concrete is not intended for pedestrian use — as erosion protection on the embankment of a stream, for example — the compacted surface can be raked or otherwise roughened to create a deliberately rustic surface.

source:www.pervious pavement.org

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Greenways:
When we think of the word “greenway” we generally think of a trail nestled into a green space. This green space can be made up of a few different types of “green space.” Trees, shrubs, natural grasses, flowers; either natural or landscaped, typically consisting of either natural or manmade elements. In the urban context, along a “fully built” right of way, it is a new way of thinking about the city. The urban greenway is the space between the walls of the city, or the space that was once a thriving industrial playground turned into places for social activities. City dwellers are now seeking softer, greener, quieter streets, access to parks for physical activity, safer walking routes to school, and a sense of pride for the city that they live in. A greenway offers that sense of pride within a city and the idea that development does not stand in the way of nature and the environment. Urban development can be thought of holistically with quality of life at the forefront.

The greenways also serve to guide cyclists to destinations that are away from their normal route, turn chores into excursions, and even make commuting a pleasurable pursuit. Wayfinding signs placed along these greenways can point users in the direction of possible businesses of interest which will in turn be an incentive for economic development, designed to call out the unique features of each community that they pass through, so that a casual passerby does not miss them.

Term: Riparian zone
A natural vegetated area along streams that reduce erosion by allowing flood waters to spread out and slow down. The vegetation acts as a buffer to trap sediment and filter runoff. This improves the water quality and helps reduce flood damages. Greenway trails are designed to flood and by utilizing these proven techniques this can cut down on the effects of the excess of flood waters.

A greenway offers an alternate transportation route for all kinds of people within a city, but this is not the only reason a greenway is necessary for the vitalization of the natural environment. A greenway trail can also serve as a conduit for wildlife by connecting what was once only paved streets and concrete to other natural habitats that are found in the outskirts of the city. This greenway must also offer a continuous link with as little disturbance from roads and other development as possible.

source:www.ozarkgreenways.org

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Some of the ways of including trails and greenways in comprehensive plans are:

- Combining recreation and transportation plans, and combining different modes of travel.
- Linking adjacent subdivisions with non-motorized connections, bike- and walk-ways, and short-cuts that encourage walking and bicycling.
- Providing trail linkages to workplaces and trails near employment centers as well as to residential areas.
- Using major planning initiatives as opportunities for trail system development.
- Looking at all kinds of corridors, transportation, utility, streams, and drainage as opportunities to include greenways and recreation.
- Working with all varieties of agencies, governments, and institutions to include greenways in planning efforts.
- Looking beyond the movement of people to attract support from environmental, education, and open space preservation interests.
- Promoting trails and greenways as a resource for the future: an investment in more livable communities.

source:www.ozarkgreenways.org

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Pocket Parks:
Pocket parks are very small parks that typically comprise only one or two lots within a block. They are usually developed on vacant lots or irregular pieces of land. Surrounded by existing development on three sides, they literally form a small "pocket" among other buildings. These little parks can bring shade, quiet, and enhanced property values to blighted areas, and they often turn up in unexpected places. They are not necessary always urban, but can be found in small towns and in low-density areas. For example, small parks located near street-ends at the coast have been termed pocket parks because they are adjacent to residences. Pocket parks are generally too small for physical activities and may be locked or gated when not in use. Open parks that fill an entire city block and are bordered by streets on all sides are usually NOT considered pocket parks, no matter how small they are.

Growing in popularity, pocket parks are easily constructed and provide a space where people can stop to relax, read, eat a packed lunch, or meet friends. In many areas, particularly in newer suburbs, there are very few public places that provide a quiet refuge. Pocket parks can be a retrofit of a vacant lot or built into a large, new development project. They are quite common in New Urbanist projects, and can be used as a selling point.

Design Guidelines

Pocket parks vary widely in appearance and character. Communities should come together to decide upon a park's design and uses.

However, some elements of a pocket park are essential. To discourage illegal activity, most of the park should be highly visible from the street. The community should provide trash cans that are emptied frequently, as well as regular maintenance. It should have at least one shade tree.

Uses. Pocket parks are best for "passive" activities such as picnics, sun bathing, reading, nature appreciation, board games, socializing, community meetings, and art appreciation. Still, recreational activities like basketball and children's play are certainly possible.

Possible Accessories. Benches, picnic tables, café tables, a sundeck, playground equipment, a half basketball court, board game tables, outdoor games (shuffleboard and hopscotch), a flower garden, a botanic garden, public art, lawns, fountains, statuary.

source: www.liveablestreets.com

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Oregon Department of Transportation
Traffic Management Section
Traffic Engineering Services Unit

March 15, 2001

Safety Comparison of Angle and Parallel Parking File Code: TRA 07-01-05

SUMMARY

Recently, the Traffic Engineering Services Unit was asked to review the research on the safety differences between types of on-street parking, specifically parallel and angle parking. These studies can be divided into two types, before and after comparisons of changes in parking arrangement and cross sectional studies of similar roadway sections with different parking arrangements. The before and after studies found crash rate reductions of 19% to 63% when converting from angle to parallel parking. Cross sectional studies found differences in crash rates of 50% to 70% lower for parallel than angle. The researchers concluded that while angle parking clearly has a higher crash rate and frequency it is more likely due to the increased activity of parking rather than the characteristics of either type of parking and that if ample parking supply exists, parallel parking should be used. Angle parking is generally less desirable because: 1) the driver leaving the space has limited

visibility to the rear; 2) empty spaces are hard to detect by approaching drivers resulting in stop and go movements; 3) through drivers decrease speed in anticipation of conflict movements. Based upon the review of the research and in agreement with AASHTO A Policy on Geometric

Design of Highways and Streets (1994) and the ODOT Highway Design Guide (1996) parallel parking is preferable to angle parking whenever possible

http://www.oregon.gov/ODOT/HWY/TRAFFICROADWAY/docs/pdf/Comparison_of_Angle_and_Parallel_Parking.pdf

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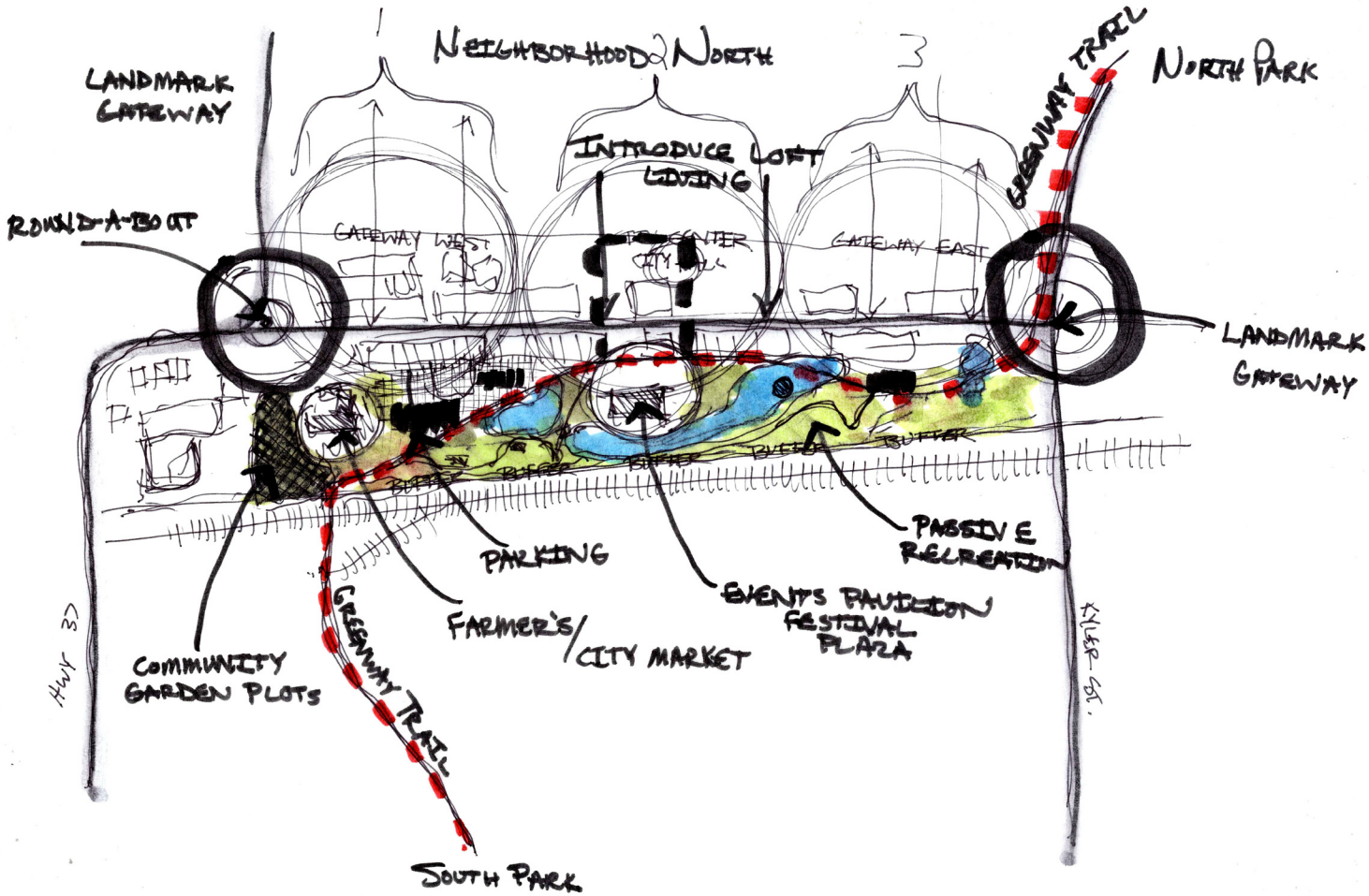

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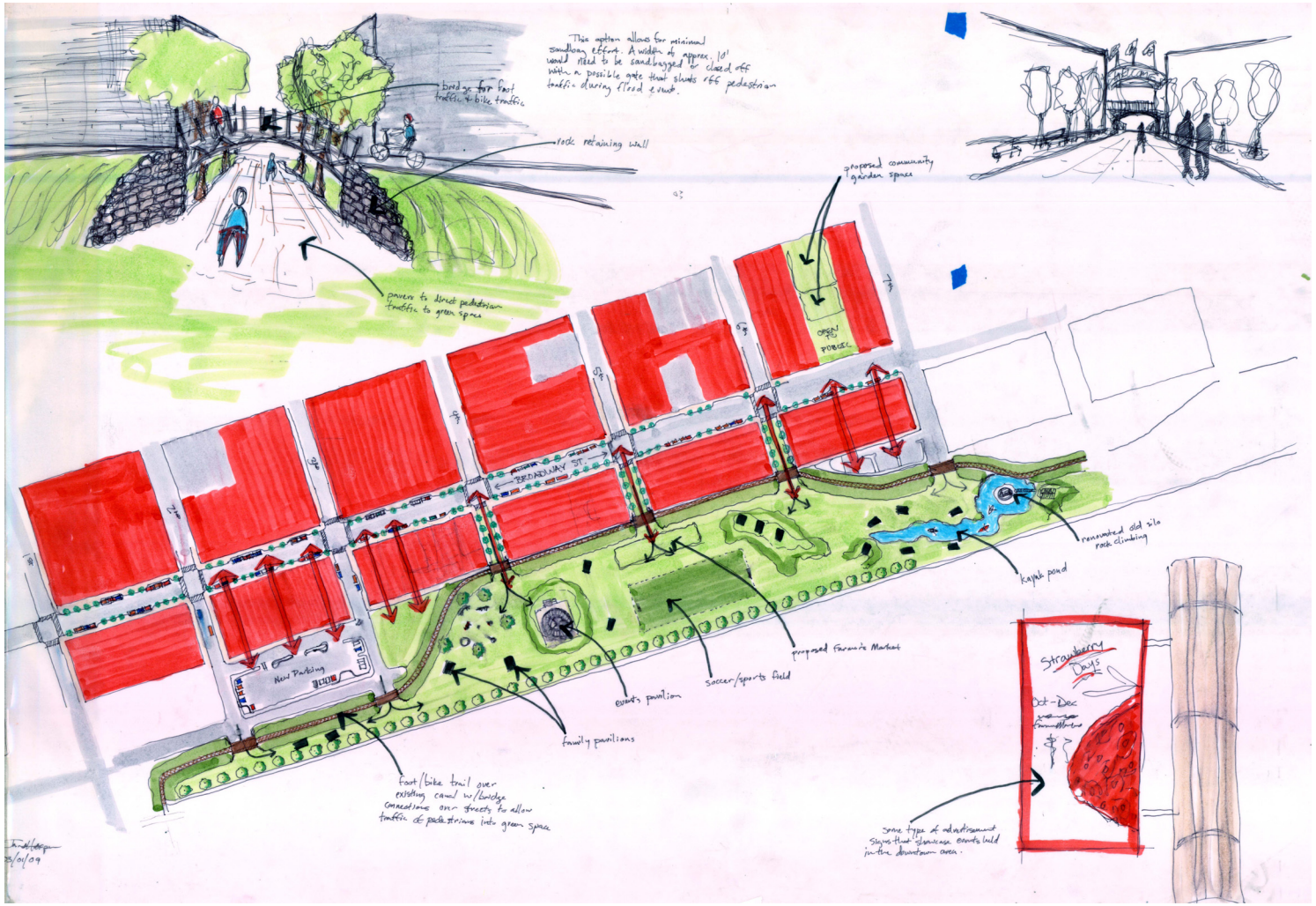

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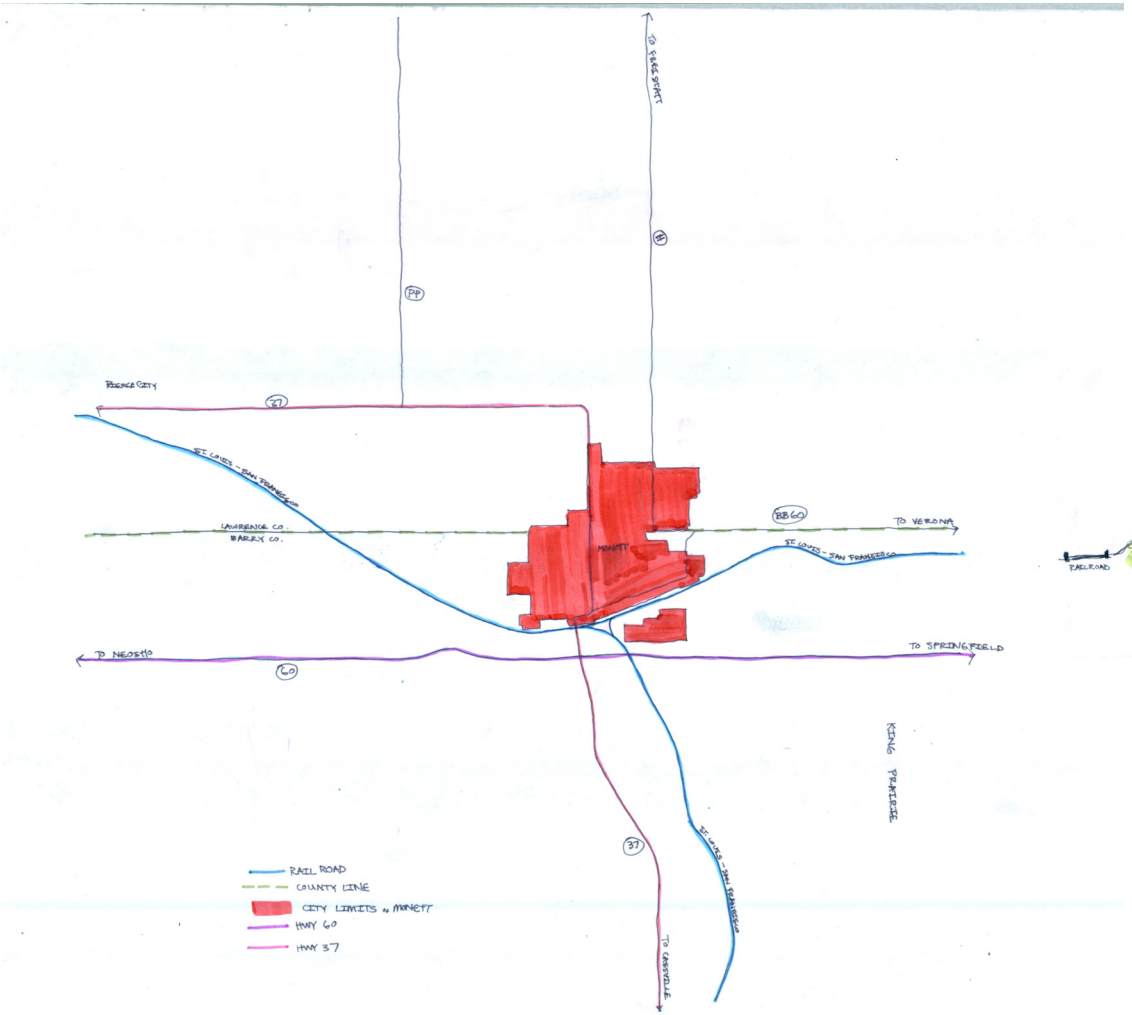

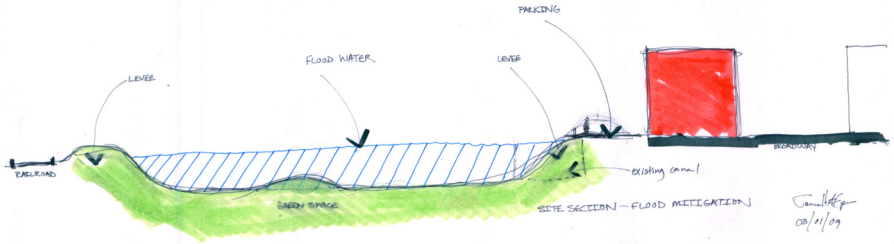

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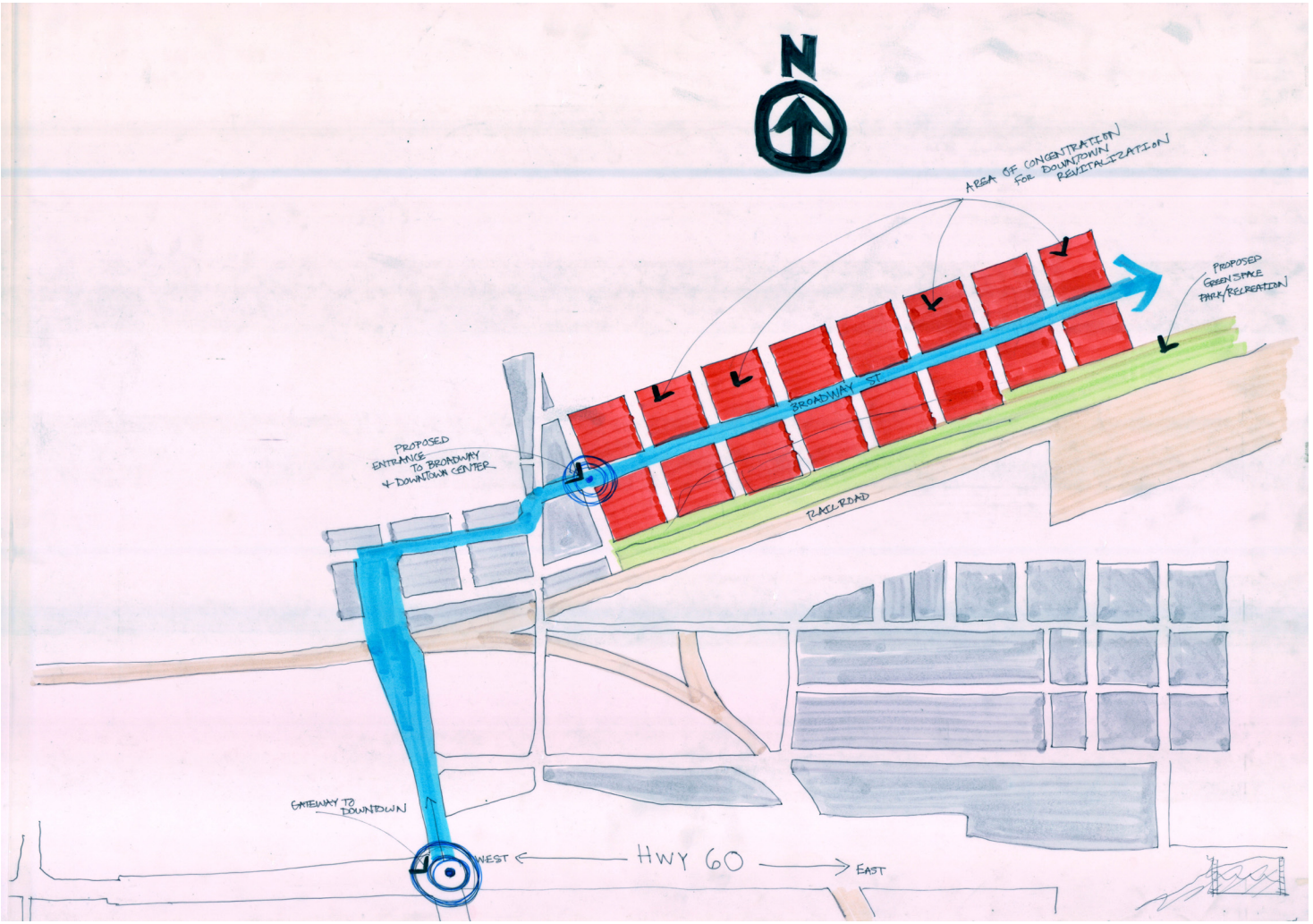

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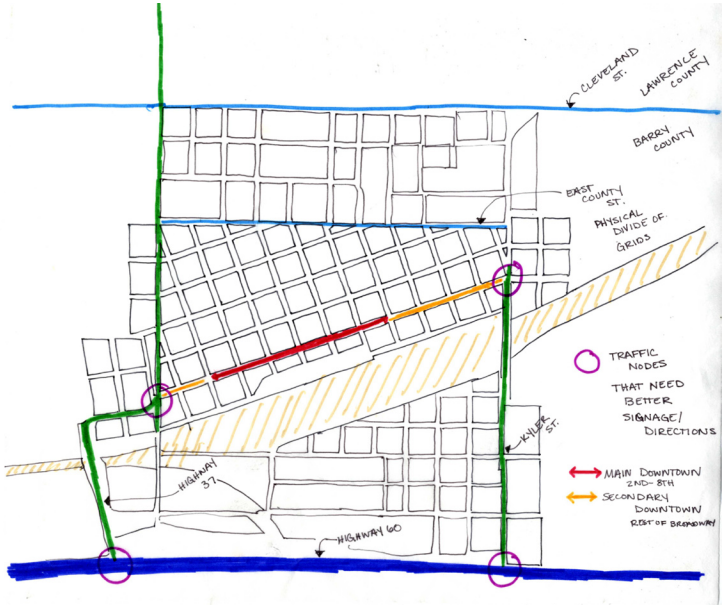

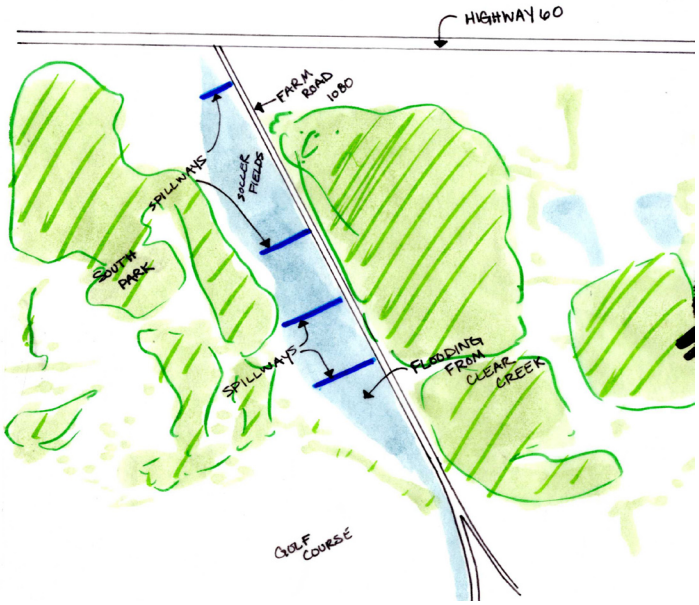

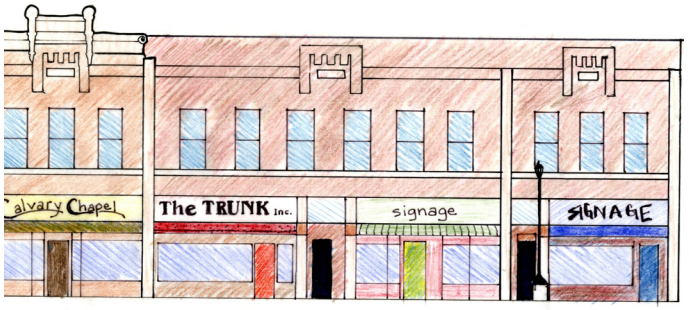

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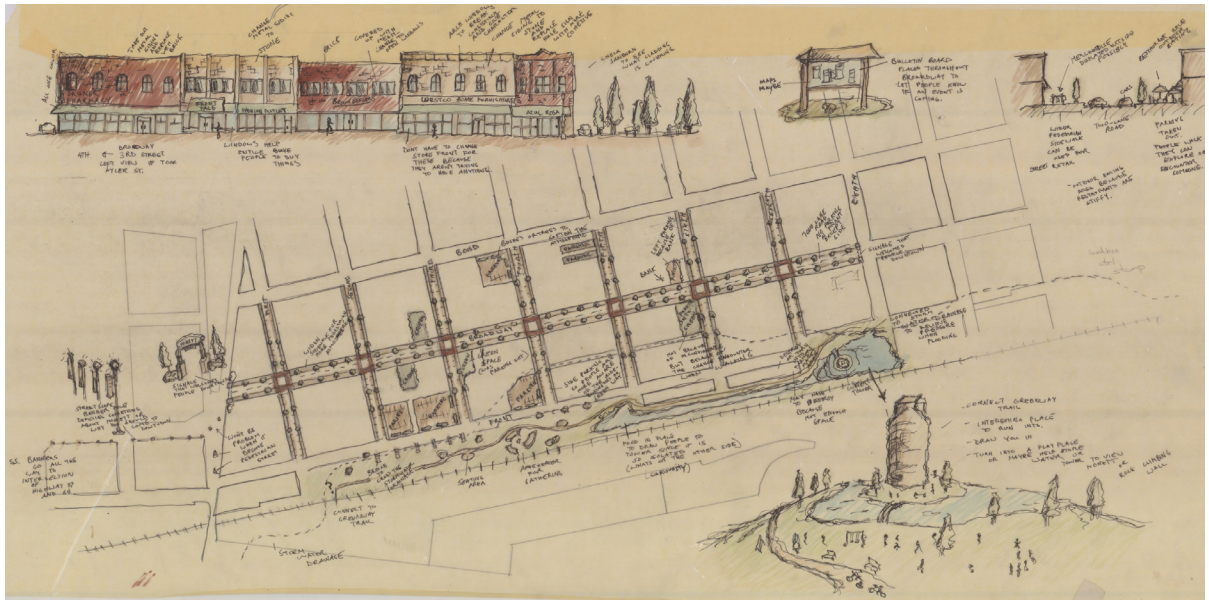

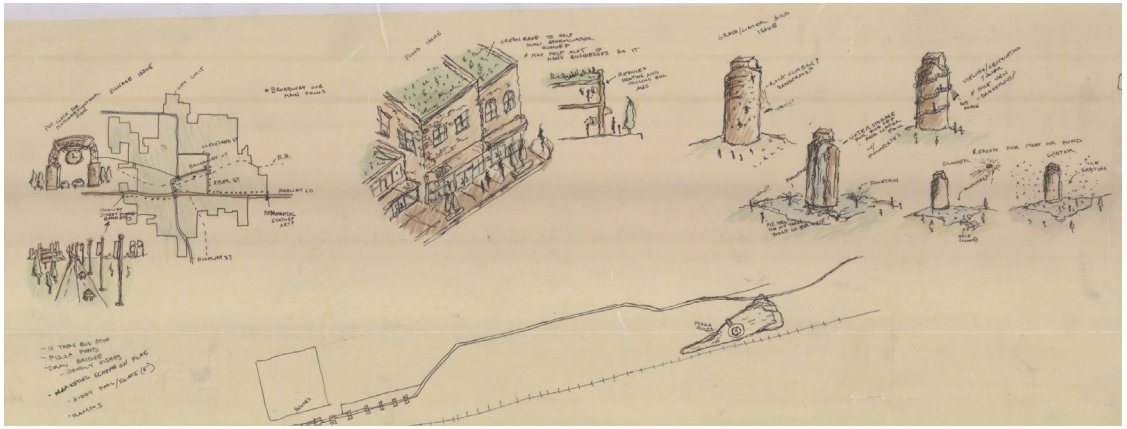

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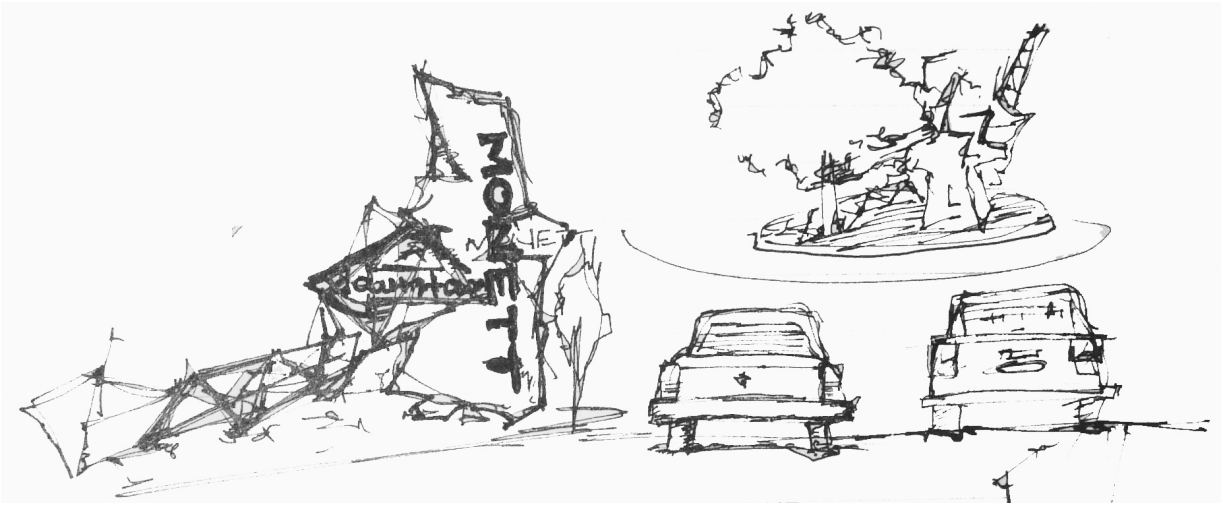

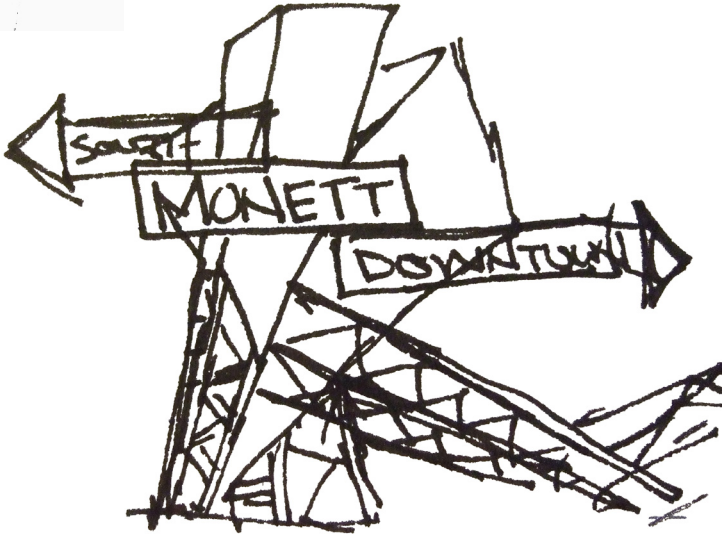

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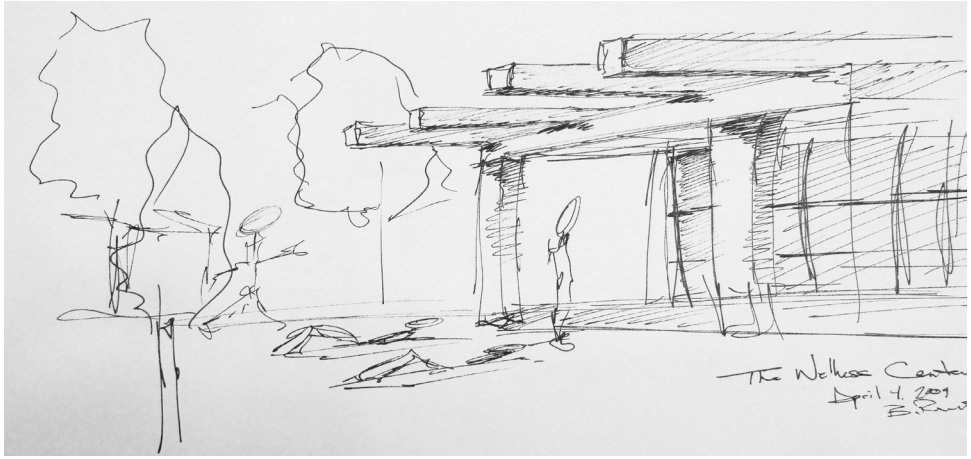

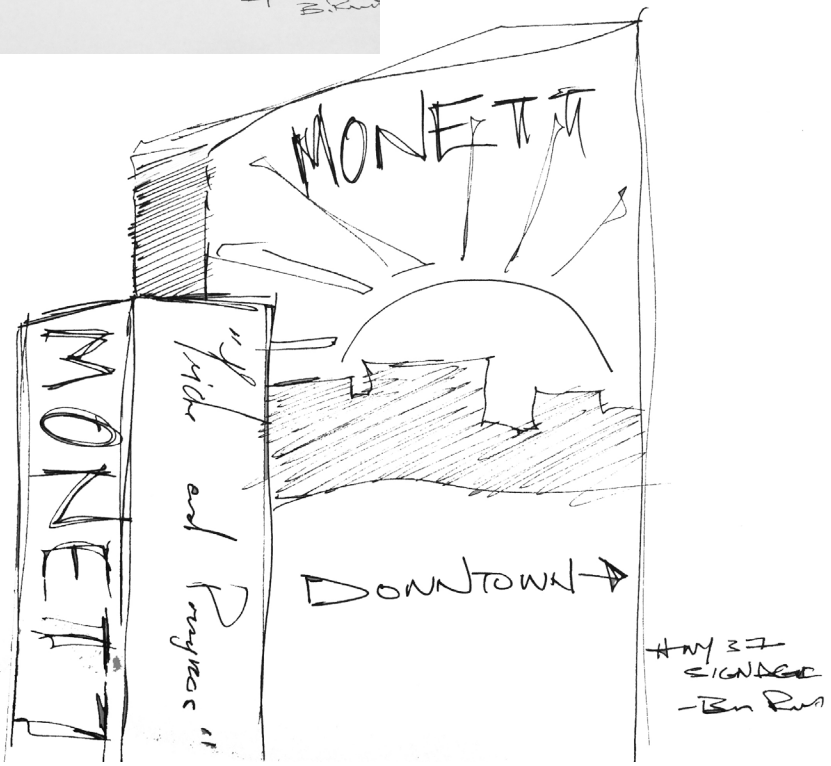

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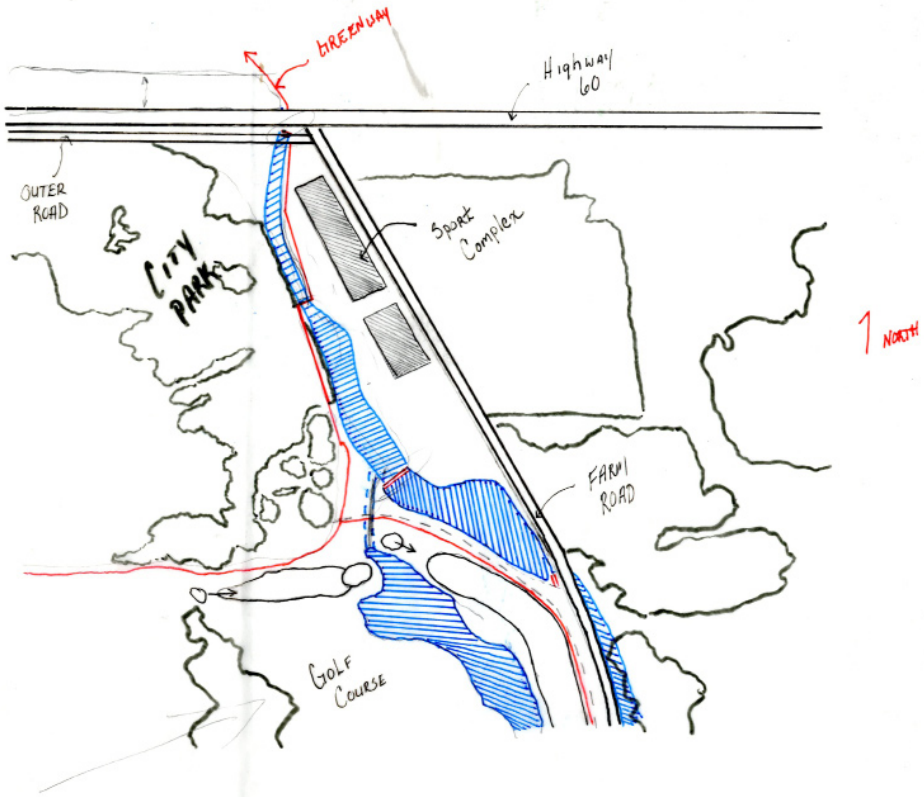

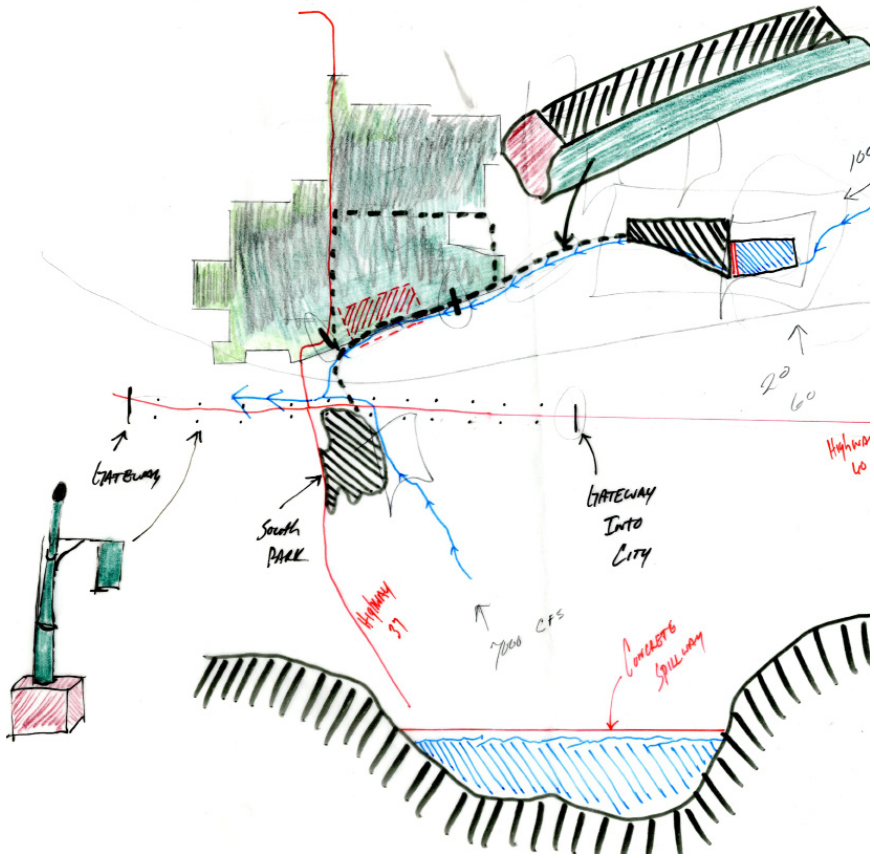

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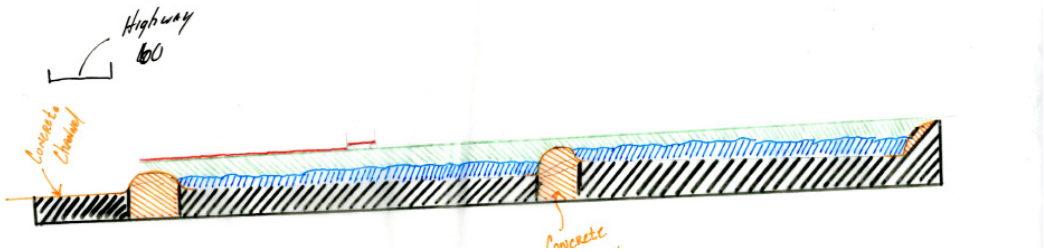

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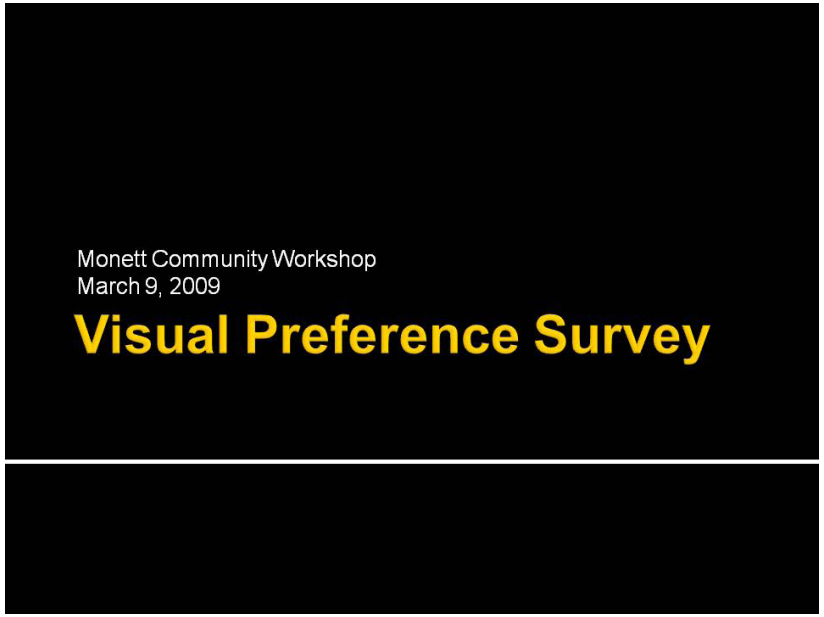
A visual preference survey was given at the second community meeting. The survey consisted of thirty slides with two slides per page. The participants were to indicate their personal preference between the two pictures on each slide.



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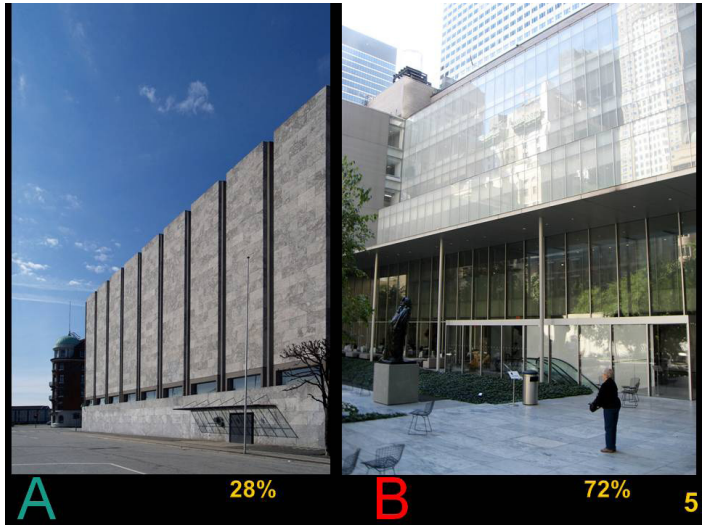

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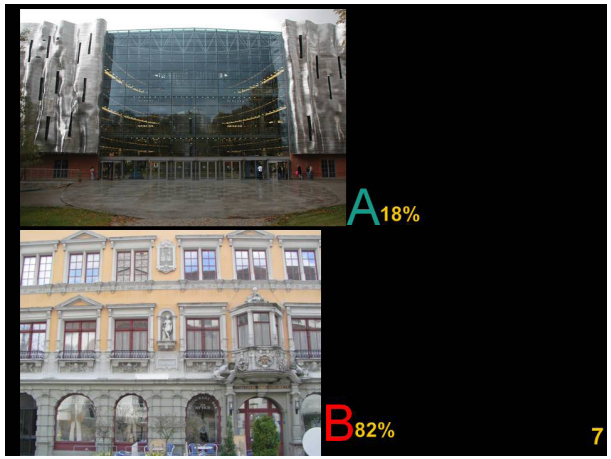

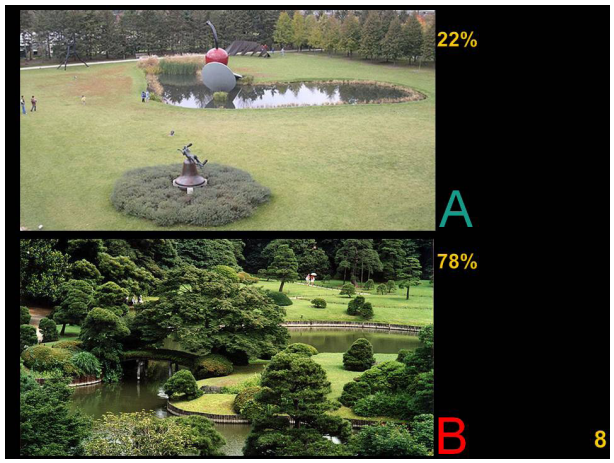

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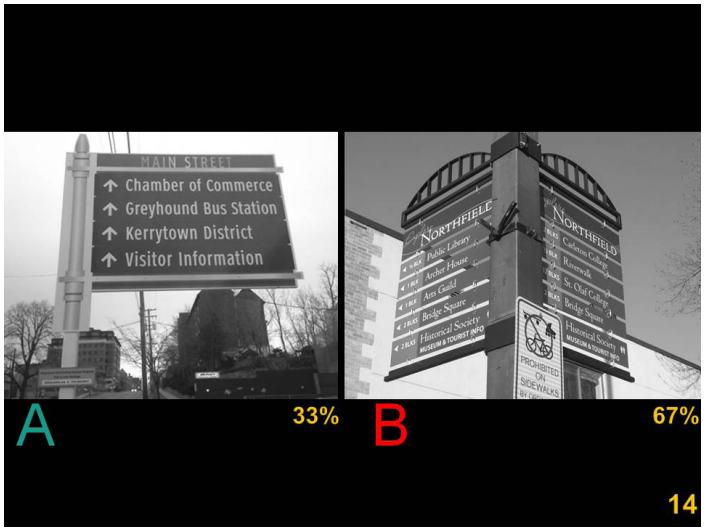

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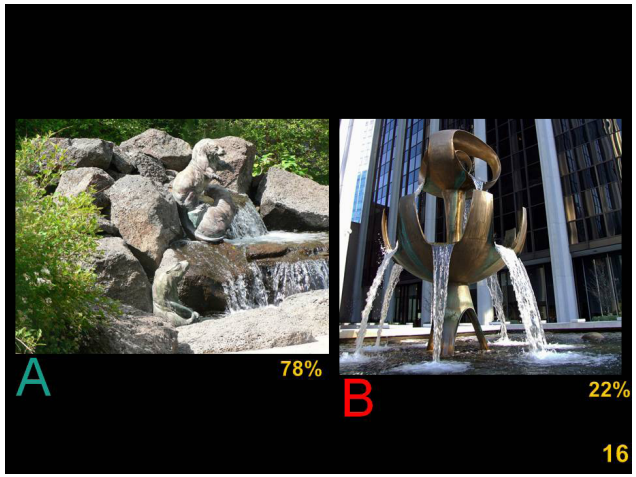

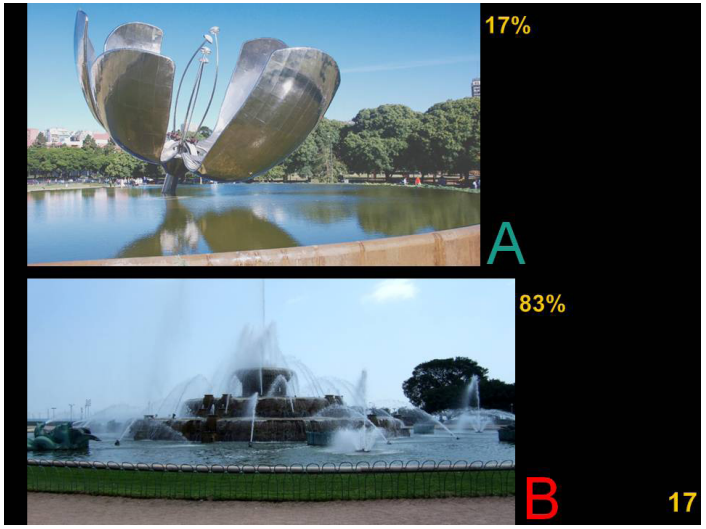

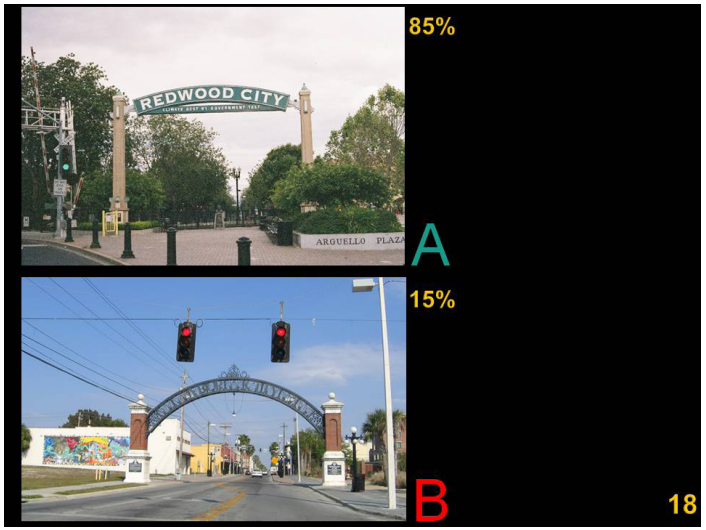

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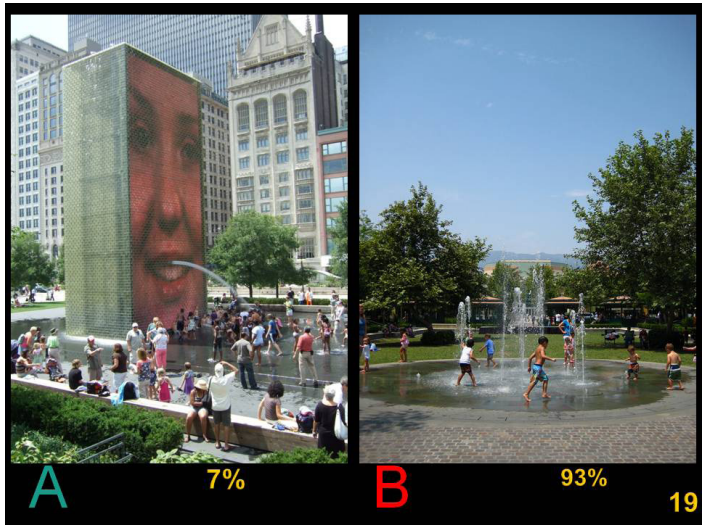

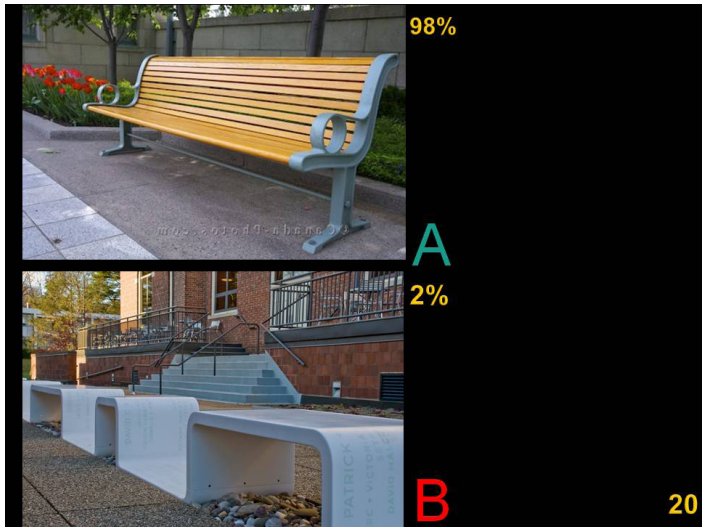

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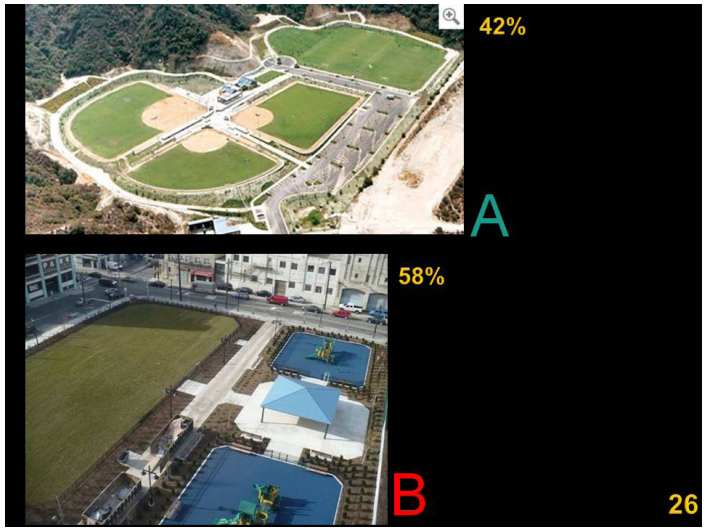

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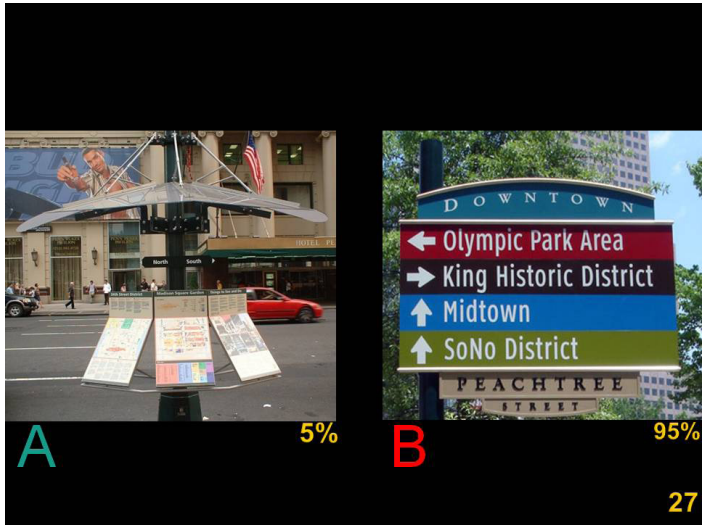

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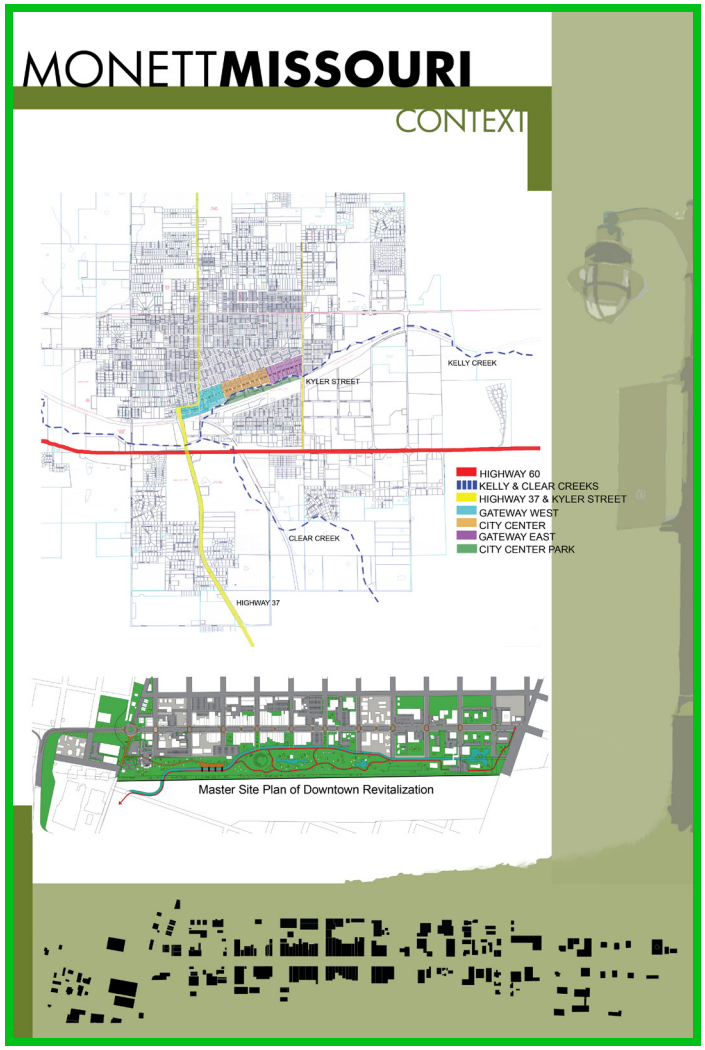
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MONETTDOWNTOWN
CITYCENTER
Facade Improvement on North side of Broadway between 4th and 5th
Facade Improvement on North side of Broadway between 3rd and 4th
Facade Improvement on South side of Broadway between 3rd and 4th
A new pocket park with a coffee shop and adjacent public restrooms.
Variety of signage to publicize businesses and public events
Nodes extend the sidewalk to create places for seating and conversation.
Raised crosswalks slow traffic and create a more pedestrian friendly downtown.
An active streetscape that promotes a dynamic nightlife.
westco

MONETTDOWNTOWN
GATEWAYEAST
View of Youth Center from the Park
View of Youth Center from Broadway
Strip mall on Broadway between 8th and 9th Streets
Restoration of Old Buildings
Clock Tower on the corner of Kyler Street and Broadway
Mix use housing facilities

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