

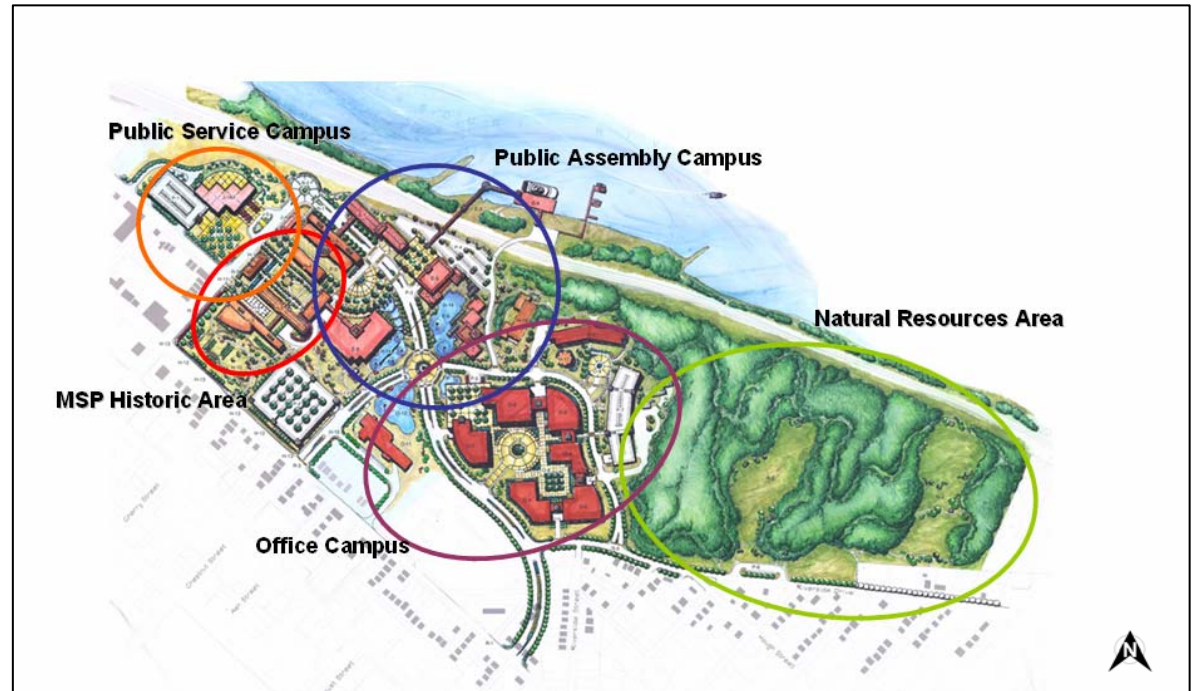
4.0 Building Design Standards

Introduction

This section provides standards and guidance pertaining to the development of various building components to be incorporated within the MSP Redevelopment District. The Building Design Standards is a tool to be used by the MSP Redevelopment Commission, the State of Missouri and Design Consultants to aide in the cohesive unified development throughout the District. All building design should be completed by registered architects and supported by the appropriate engineering disciplines.

The design character of the buildings that make up the MSP redevelopment affects the overall image of the District. Design character is influenced by many factors including structural character, placement and configuration of entrances and service areas, plazas and courtyards, accessibility compliance, additions and renovations and exterior materials and colors.

As defined in Chapter 2.0 Design Guide Analysis Criteria, the MSP Redevelopment District is subdivided into 5 distinct ‘visual zones’ based on historical context, geographic location and land use. The zones include; Public Service Campus, MSP Historic Area, Public Assembly Campus, Office Campus and the Natural Resources



MSP Visual Zones

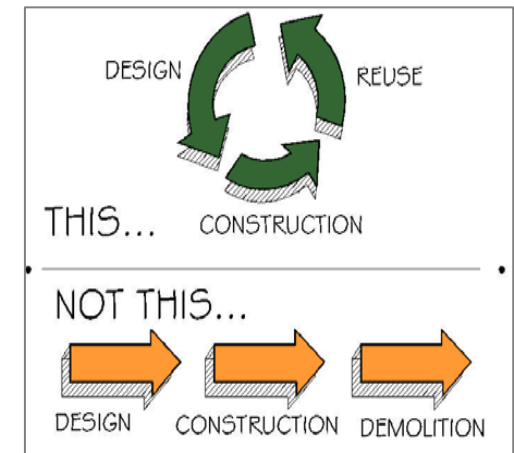
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Area. Each visual zone will be developed so that it will have its own distinct architectural character, which will be an integral part of the overall visual assets of the MSP Redevelopment District.

The Building Design Standards that follow are intended to define an architecturally compatible image for the MSP Redevelopment District. Well-articulated goals and guidelines will help to establish a visually unified cohesive development, which will be sensitive to the historical preservation issues while allowing for creative design solutions for future projects.

Building Design Objectives

Sustainability: Incorporate sustainable design into all renovations and new development. Sustainable design and development is an integrated approach to the planning, design, construction, operation and maintenance of facilities in a collaborative and holistic manner among all stakeholders. It is a systematic process and engineering practice with how-to-do guidance, checklist, tools and scoring systems. Sustainable design bases every design decision on the greatest long-term benefit to the natural environment. The basic objective of sustainability is the protection of the natural environment by reducing the waste and consumption of energy, land, materials, water and other natural resources. Efficient site planning and adaptive reuse of existing facilities within the MSP Redevelopment District provides many opportunities to achieve sustainable design objectives. The re-use of existing materials and/or the use of on-site materials will also help to provide cohesion and unity throughout the District. Financial incentives can be obtained for developments that follow the U.S. Green Building Council LEED (Leadership in Energy and Environmental Design) Green Building Rating System.



Sustainable Design Process

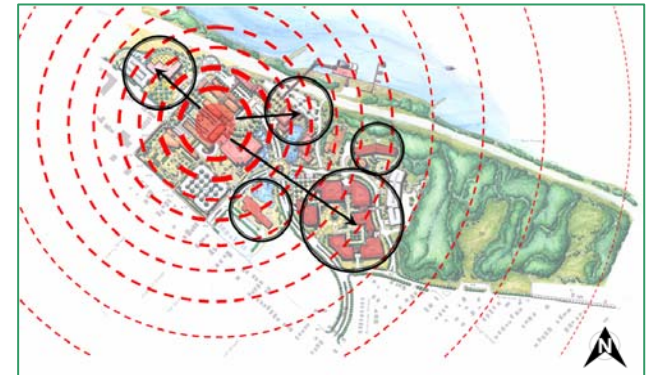
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Historic Preservation: Preserve and restore the historically significant structures located in the MSP Historic Area. Utilize the established architectural theme and character of the MSP Historic Area as a guide to influence future renovations and development throughout the MSP Redevelopment District. The intent is not to reproduce these historical buildings, but to use desirable characteristics for functional and aesthetic purposes, while incorporating modern design features, materials and construction techniques. Existing architectural assets should be used as a starting point in the development of an overall architectural theme. As the theme is incorporated into new development and renovation projects, a sense of history unique to the MSP Redevelopment District should (will) emerge. New modernized construction techniques and materials should be carefully evaluated to ensure that they do not negatively compromise the design character and detract from the overall image and cohesive nature of the development. An appropriate blend of existing building materials can add interest and variety to the development, however if done incorrectly can result in a loss of cohesiveness and disorganized visual appearance.

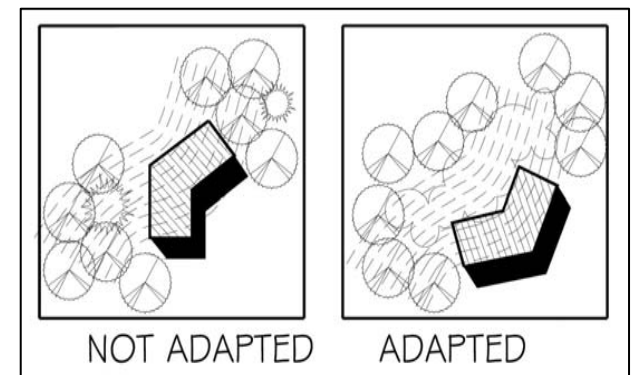
Site Adaptation: Adapt buildings and associated site development to natural site conditions. Preserve and enhance natural site features such as existing vegetation, landforms and scenic views and vistas. Design buildings and configure site development in response to climatic opportunities and constraints.

Structural Character

Structural character is created as a result of the building’s scale and proportion, massing and form, color, texture, materials and fenestration. The compatible coordination of structural character within the Redevelopment District provides a consistent and cohesive ‘sense of order’ and ‘sense of place’.



MSP Historic Area's Zone of Influence



Adapt Building Design to Site Conditions

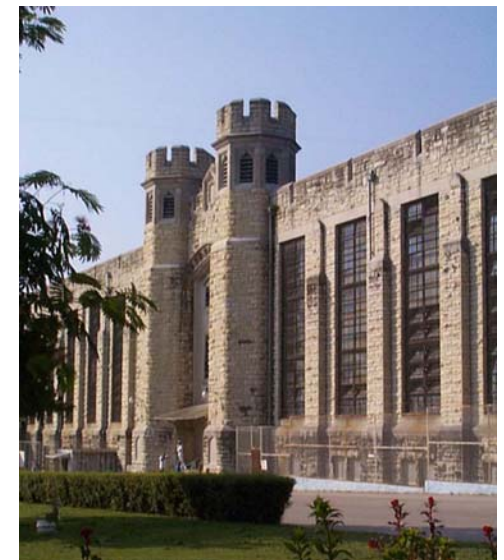
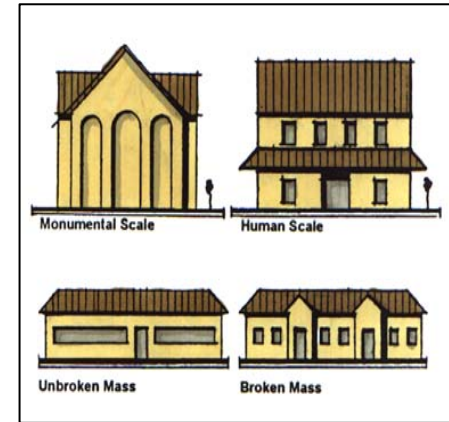
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Scale and Proportion: Scale refers to how the size of a building element, or space, is perceived in relation to humans. Proportion refers to the relative scale and mass of building elements. Buildings that include predominant vertical facades, which dwarf the individual, are defined as monumental in scale. Buildings with more horizontal facades designed to relate more to the size of the human figure are defined as human scale. Building scale and proportion can be visually manipulated through site development, courtyards and plazas, roof form, fenestrations, building massing and landscape plantings. New facilities should convey an appropriate sense of scale consistent with other facilities within the ‘visual zone’. Additions and modifications should be designed with massing, scale and proportion that compliment the existing building. Relate the height, footprint, scale and proportion of new buildings to adjacent structures and the prevailing scale within the development areas.

Massing: The massing of a building refers to its overall bulk, or the volume of space, which the building occupies. When massing a new building, the size and proportion of its exterior envelope and elevations should be designed to relate compatibly with adjacent structures within a ‘visual zone’. Massing and form play a major role in establishing the character of a structure. While a controlled palette of colors and materials is used to create visual continuity, massing and form should be used to contribute visual interest, visual hierarchy, and building identity, through manipulation of scale, proportion, fenestration and site context.

Form: A building’s form is determined by an articulation of its size, mass, shape and proportions. The size and proportion of its wall elevations and roof types significantly impact the form of a structure. To reinforce the architectural theme and provide unity and cohesiveness, building forms should remain consistent throughout a ‘visual zone’.

Color: Colors should be selected on the basis of the desired appearance, its compatibility with adjacent buildings and the prevailing color scheme and character of the ‘visual



Architectural Character Influenced by Scale & Proportion, Massing and Form

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zone'. Materials of similar color and texture, utilized consistently throughout a 'visual zone' contribute to a cohesive unified design theme. Color is closely linked to the appropriate selection of exterior building materials and is a critical design element in relating adjacent buildings and creating a compatible visual environment within a 'visual zone'.

Color also has the ability to modify climatic conditions. Generally, light-colored building exteriors tend to reflect solar radiation and promote heat loss, but increase glare; dark-colored exteriors tend to absorb solar radiation, promoting heat gain and reduce glare.

Texture: The use of materials of similar texture on buildings helps to provide visual continuity for the 'visual zone'.

Material: Exterior building materials should provide a cohesive and consistent architectural character within a 'visual zone'. All new construction should be compatible with the established architectural character within the 'visual zone'.

Types of materials selected should vary based on climatic conditions, thermal qualities, reflectivity and durability.

Avoid cluttered, cosmetic applications of a number of different materials on a facade. Materials should be used consistently on all facades of a building.

Materials should be selected based upon their appropriateness to the building type, climatic conditions, and the prevailing architectural design and landscape character of the 'visual zone'.

Materials distinctive to an established architectural character should be adhered to consistently throughout a 'visual zone'. Historic styles should not be imitated where it is inconsistent with function requirements and construction economies. The use of similar



Character Influenced by Color and Materials



Architectural Character Influenced by Materials, Color and Texture

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materials, complimentary colors and a compatibly scaled building can successfully relate new buildings to an historic style or setting.

Fenestration: Building fenestration is articulated primarily with features such as doors, windows, and building details.

The perception of a buildings shape, size, scale, proportion and visual weight is affected by its surface fenestrations. The shape, size, scale and proportions of these properties can be altered or manipulated to establish systems of rhythmic or hierarchical fenestration. Building fenestration systems can relate-to or contrast fenestrations articulation patterns of the surrounding built environment. Fenestrations within a ‘visual zone’ should be similar in arrangement, design, size and proportion for architectural compatibility and visual consistency and continuity.

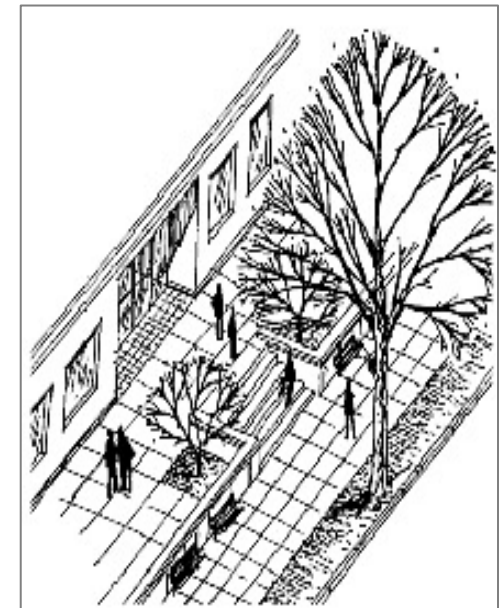


Architectural Fenestrations Influence the Building's Relative Size, Shape and Visual Weight

Structural Elements

Structural elements including building entrances, service areas, plazas and courtyards have a profound affect on the visual character of a building or group of buildings. Structural elements shall be designed so that they are an integral part of the structure, visually compatible and unifying.

Building Entrances: A building entrance is a primary feature of any building design. The entrance should be defined and recognizable as the point of entry regardless of the size or importance of the building.



Entrance is Positive Visual Experience

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The entrance to a building should be in a prominent location and should be oriented toward the primary adjacent public spaces such as a courtyard, lawn, parking lot, or street.

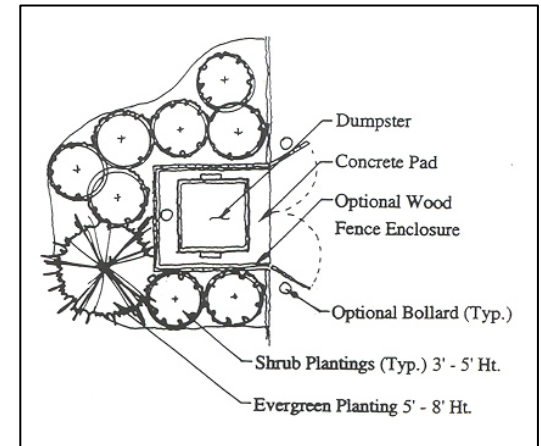
Covered entrances should be integrated into the overall building design to visually define the main access points to the structure and reinforce pedestrian circulation. Use entrance canopies, awnings and landscape features in conjunction with well-articulated building facades to enhance the main entrances of existing buildings.

The details of an entrance should be designed to provide continuity with other entrances to the building and the entrances of adjacent buildings within the ‘visual zone’.

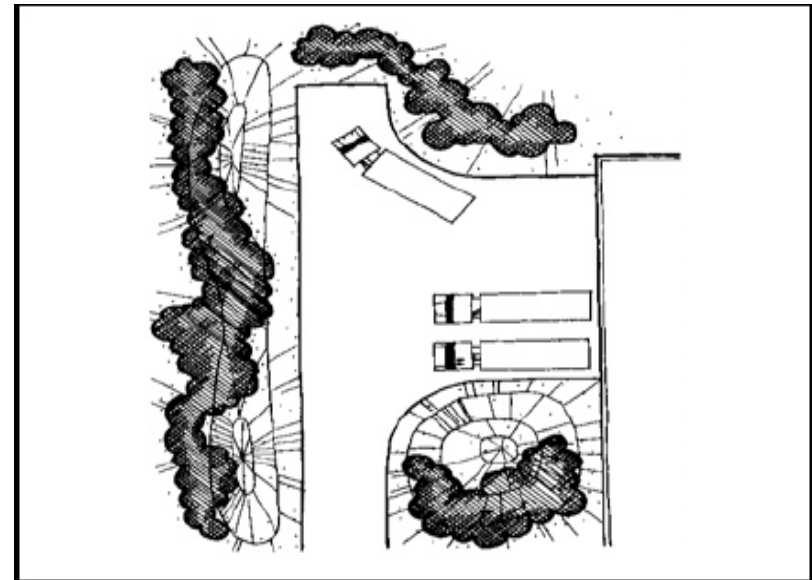
All new and renovated structures or facilities must comply with the Americans with Disabilities Act (ADA) accessibility guidelines. Compliance with the (ADA) shall be addressed with the least possible negative impact on the visual character of existing and historic structures. New structures shall take advantage of existing site conditions and grades to accommodate building accessibility that is harmonious and visually appropriate to the structure.

Service Areas: Service areas, such as loading docks and trash dumpsters, should be screened from the views of primary use areas such as entrances, courtyards, gathering areas, streets and parking lots.

Service areas should be screened with walls and/or berms and appropriate landscape development. Screen walls should be between six and eight feet high and should be constructed of the same materials as the primary



Screen Dumpster Enclosures



Plants and Berms in Service Area Presents a Positive Visual Image

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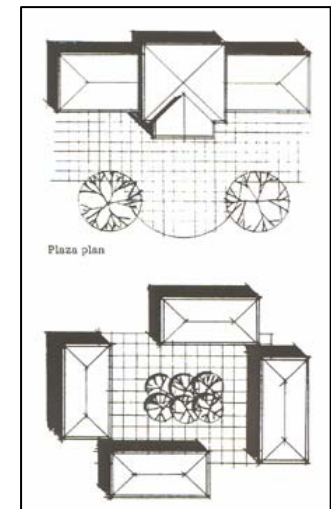
adjacent structure in order to maintain visual continuity and unity within the ‘visual zone’.

Plazas and Courtyards: The development of exterior spaces as plazas and courtyards can affect the mass, scale and relief to a building wall which can positively affect the character of the building.

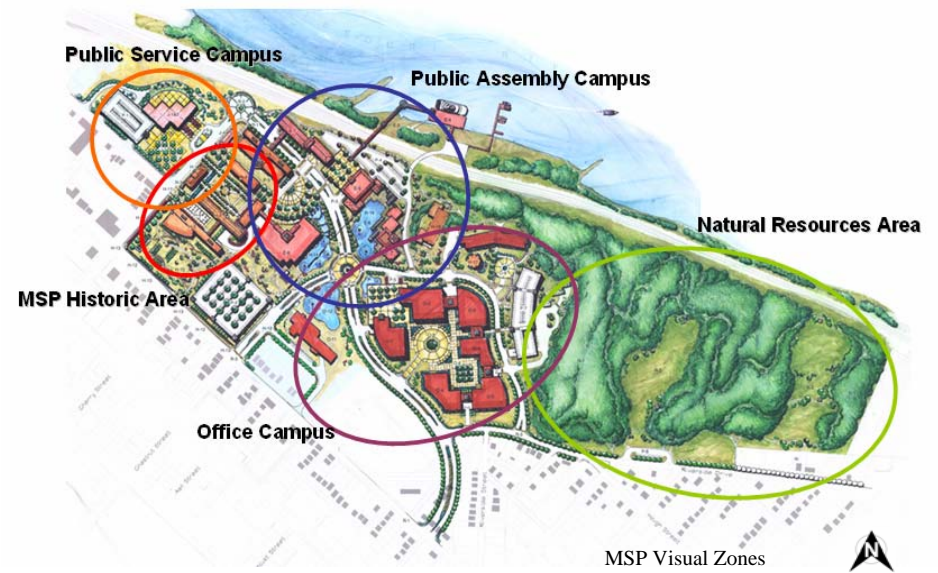
To insure compatibility and visual unity, plazas and courtyards should be developed utilizing the same materials and construction details of the adjacent structures or grouping of buildings within a ‘visual zone’.

Visual Zones

As defined in Chapter 2.0 Design Guide Analysis Criteria, the MSP Redevelopment District is subdivided into 5 distinct ‘visual zones’ based on historical context, geographic location and land use. The zones include; MSP Historic Area, Public Service Campus, Public Assembly Campus, Office Campus and the Natural Resources Area. Each visual zone will be developed so that it will have its own distinct architectural character, which will be an integral part of the overall visual assets of the MSP Redevelopment District. In addition, select ‘visual zones’ will influence the design character of adjacent ‘visual zones’ creating continuity throughout the MSP Redevelopment District.



Plazas and Courtyard Development Shall Complement Structure



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MSP Historic Area: The MSP Historic Area contains the majority of the buildings, which will remain, be restored or renovated as part of the MSP Redevelopment. Buildings and structures to remain include Housing Units 1, 2, 3, 4 and 5, the gas chamber, the guard towers and the majority of the prison wall. Proposed facilities within the MSP Historic Area include office space, conference center, MSP museum, hotel, structured parking and plaza development.

Reconstruction includes the historic dining hall, the guard towers and the wagon wheel gate at the prison wall. The dining hall will be reconstructed to its original architectural style and detailing utilizing the existing foundation as part of the redevelopment. The reconstruction will recreate the original quadrangle formed by the dining hall and housing units 1, 3 and 4. The reconstruction shall be based on accurate photographs and detailed sketches of the original structure.

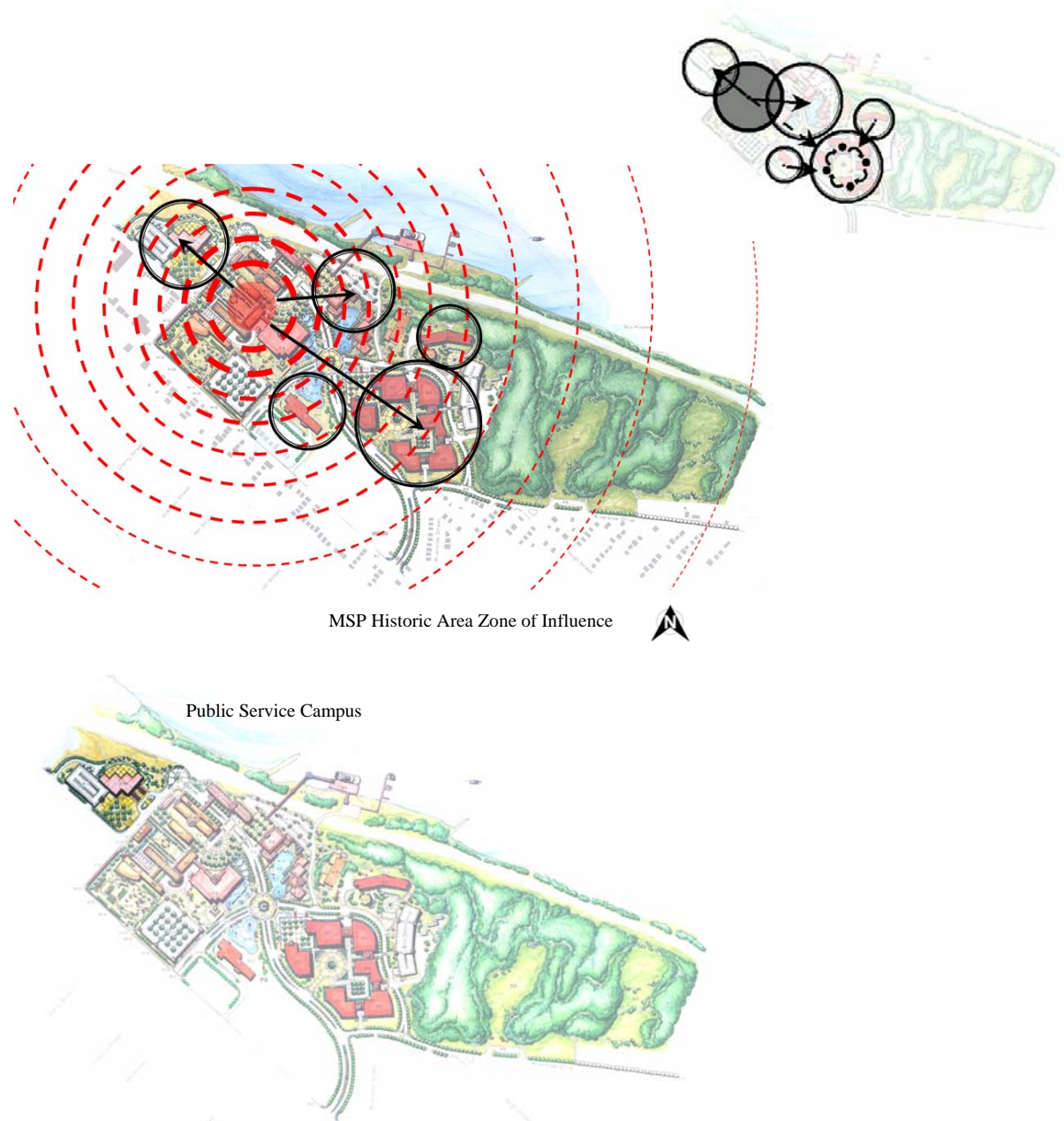
The guard towers and wagon wheel entrance gates will be restored to their original condition utilizing photographs and other available data to verify existing architectural and structural detailing. For further discussion of the wall see Chapter 7.



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The structural character of the existing buildings within the MSP Historic Area shall become ‘theme generators’ for other ‘visual zones’ within the MSP Redevelopment District. Structural character or ‘theme generators’ include scale and proportion, massing and form, color, texture, materials and architectural fenestrations. The extent of influence will depend on the ‘visual zones’ land use types and proximity to the Historic Area. The greater distance the ‘visual zone’ is from the Historic Area the lesser the design influence the Historic Area will have on the ‘visual zone’. Therefore the MSP Historic Area will have a greater influence on the Public Service Campus and Public Assembly Campus ‘visual zones’ than on the Office Campus and Natural Resources Area ‘visual zones’ based on relative proximity and land use.

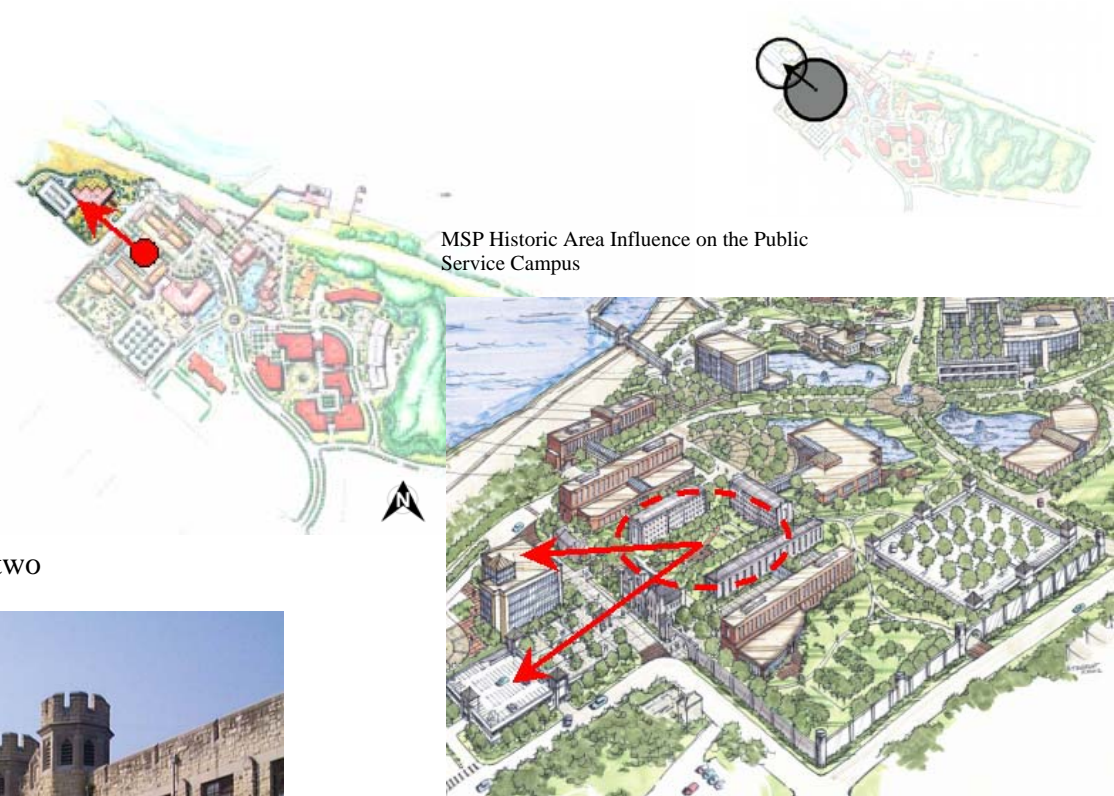
Public Service Campus: The Public Service Campus is located immediately northwest of the MSP Historic Area and will consist of public



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service office space, structured parking and plaza and courtyard development.

The Public Service Campus being directly adjacent to the MSP Historic Area will be highly influenced by the architectural styles and character associated with the existing historic area. The proposed land uses and building types proposed for the Public Service Campus are consistent with the mass, form, scale and proportion of the MSP Historic Area. Selection of the appropriate materials, colors and textures will visually link the two areas creating an implied unity between the two ‘visual zones’.



MSP Historic Area Influence on the Public Service Campus



Potential Architectural Treatment Influenced by Window Fenestrations, Scale, Proportion, Massing and Form of Historic Structures. Blended Materials Provide Unity and Cohesiveness.



Architectural Character Influenced by Scale and Proportion, Massing and Form



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Public Assembly Campus: The Public Assembly Campus is located immediately northeast of the MSP Historic Area and will consist of a public assembly facility, hotels, retail / commercial development, structured parking, pedestrian plazas and water features, an elevated link to the rivers edge and an excursion boat landing.

The Public Assembly Campus, being directly adjacent to the MSP Historic Area will be highly influenced by the architectural styles and character associated with the existing historic area. The public assembly facility and hotels planned for the Public Assembly Campus are consistent with the mass, form, scale and proportion of the MSP Historic Area. Although the mass, scale and proportions of the retail / commercial facilities are not consistent with the historic district, appropriate materials, colors and textures will visually link the two areas creating unity and visual cohesion between the two ‘visual zones’.



MSP Historic Area Influence on the Public Assembly Campus

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The Mass, Scale, Proportions, Color and Texture of these Buildings are Compatible with Existing Buildings Found in the MSP Historic Area.



Potential Architectural Treatment of the Public Assembly Facility Influenced by the Structural Character of Housing Unit 3. Compatible Massing, Scale and Proportion Combined with Similar Architectural Fenestrations and Material Banding help to Create Design Unit



Interior View of Windows at Housing Unit 3



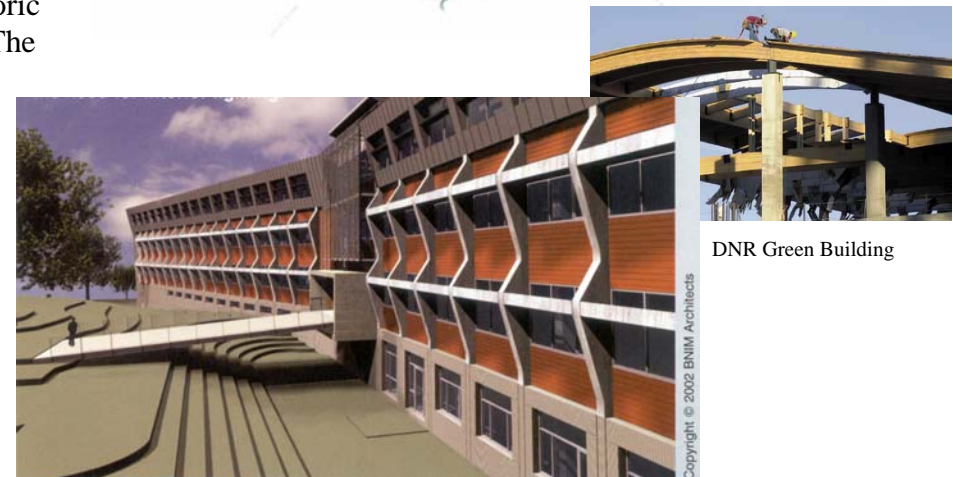
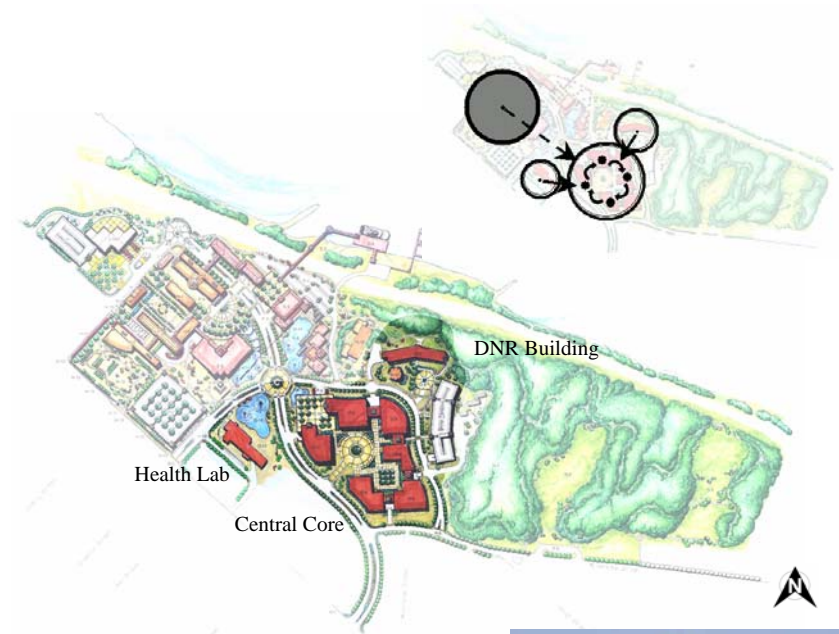
Window Fenestration and Horizontal Brick and Limestone Banding on Housing Unit 2



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Office Campus: The Office Campus is located southeast of the MSP Historic Area and will consist of mixed-use office space, structured parking, water features, plazas and courtyards. The recently constructed DNR Building and the State Health Lab are within the Office Campus ‘visual zone’. The DNR building is located on the northern edge of the campus overlooking the Missouri River and the Health Lab is located on the southeastern edge adjacent to East Capitol Street.

The Office Campus is somewhat removed geographically from the MSP Historical Area, therefore will not be as strongly influenced by the historic district as the Public Service and Public Assembly Campus’s will be. The structural character of the DNR building and the Health Lab will share architectural influences with the MSP Historic Area in the architectural theme development of the central core area of the Office Campus ‘visual zone’. The central core area of the Office Campus is configured as an integral clustered development; therefore, all buildings within the core shall be closely aligned with regards to structural character. As the core develops the previously development facilities within the core will have the strongest influence on the structural character of the new development to ensure a compatible visually unified core development.

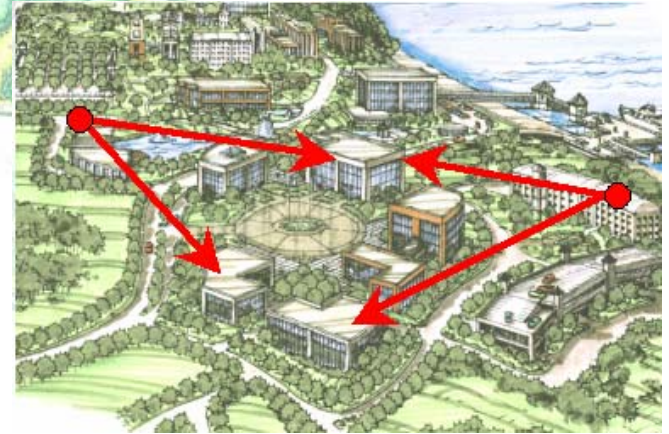


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The office facilities planned within the Office Campus are consistent with the mass, form, scale and proportion of other 'visual zones' within the MSP Redevelopment District, therefore architectural compatibility can be readily achieved through the use of structural character elements such as color and texture of construction materials and architectural fenestration.



Zone of Influence From MSP Historic Area and From The DNR Building and the Health Lab



Structured parking compatible with adjacent Natural Resources Area.



Compatible use of materials on structured parking facility.



Architectural fenestrations of office buildings and courtyard compatible with Housing Unit 2.



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Natural Resources Area: The Natural Resources Area occupies the eastern half of the MSP Redevelopment District. Its primary function is preserved woodlands and ‘open space’, however it does contain recreation trails, picnic pavilions and other recreational amenities.

Based on the remote geographic location and its unique land uses and distinctive character, the Natural Resources Area will have an architectural treatment unique to itself. The use of brick, limestone and other materials found in adjacent ‘visual zones’ will provide subtle visual ties creating a sense of total site unification and cohesion throughout the MSP Redevelopment District.



Natural Resources Area



Picnic Area



Structured Parking Adjacent to the Natural Resources Area



Limestone Wall

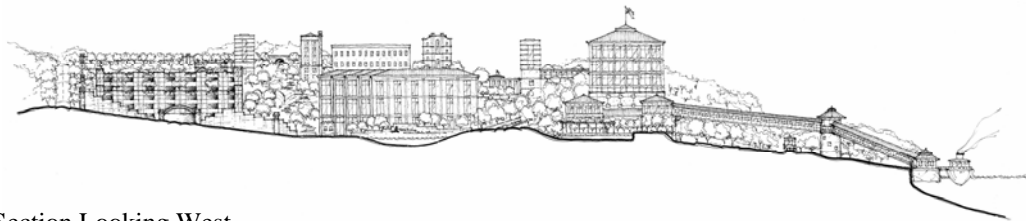


Limestone Table

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Section Looking North



Section Looking West