

lower hill  
preliminary land development plan

Pittsburgh, Pennsylvania **u r b a n   d e s i g n   a s s o c i a t e s**

LaQuatra Bonci Associates

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Table of Contents

SECTION 1. INTRODUCTION 1

Sec. 1.1 Purpose 2

Sec. 1.2 Organization of the Document 3

Sec. 1.3 Overview and Planning History 4

Sec. 1.4 Sustainable Community Requirements 5

REGULATORY STANDARDS: SECTION 2–4

SECTION 2. REGULATING PLANS 8

Sec. 2.1 Introduction 9

Sec. 2.2 The Specially Planned District 10

Sec. 2.3 Blocks 11

Sec. 2.4 Streets and Connections 12

Sec. 2.5 Open Space and Courtyards 13

Sec. 2.6 Street Frontages 14

Sec. 2.7 Building Height 19

Sec. 2.8 Parking and Service 20

Sec. 2.9 Sub District 3 24

SECTION 3. STREET TYPES 26

Sec. 3.1 Introduction 27

Sec. 3.2 Sustainable Streets 28

Sec. 3.3 Street Type A 29

Sec. 3.4 Street Type B 30

Sec. 3.5 Street Type C 31

Sec. 3.6 Street Type D 32

Sec. 3.7 Street Type E 33

Sec. 3.8 Street Type F 34

Sec. 3.9 Street Type G 35

Sec. 3.10 Sidewalk Types A, B, and C 36

Sec. 3.11 Private Alley 37

SECTION 4. BUILDING TYPES 38

Sec. 4.1 Introduction 39

Sec. 4.2 General Regulations 40

Sec. 4.3 Building Materials and Systems 41

Sec. 4.4 Building Elements 42

Sec. 4.5 Attached House 43

Sec. 4.6 Type II Building 44

Sec. 4.7 Tower Building 45

DEVELOPMENT GUIDELINES: SECTION 5–8

SECTION 5. SIGNAGE, LIGHTING, AND SITE ELEMENTS 46

Sec. 5.1 Introduction 47

Sec. 5.2 Signage 48

Sec. 5.3 Sidewalk Cafes 53

Sec. 5.4 Lighting 54

Sec. 5.5 Materials 55

Sec. 5.6 Site Furnishings 57

SECTION 6. OPEN SPACE AND LANDSCAPE STANDARDS 59

Sec. 6.1 Introduction 60

Sec. 6.2 Urban Open Space Plan 61

Sec. 6.3 Public Art Plan 65

Sec. 6.4 Plant Palette 66

Sec. 6.5 Plant Palette Streetscapes 67

Sec. 6.6 Landscape Standards: Frontages 68

Sec. 6.7 Residential Landscape Requirements 69

Sec. 6.8 Commercial Landscape Requirements 71

Sec. 6.9 Landscape Standards: Green Roofs 72

SECTION 7. SYSTEMS AND NETWORKS INTEGRATION 73

Sec. 7.1 Introduction 74

Sec. 7.2 Stormwater Systems Integration 75

Sec. 7.3 Energy District and Private Utility Systems Integration 77

Sec. 7.4 Shared Parking Network 78

Sec. 7.5 Transit and Bicycle Network Connections 79

Sec. 7.6 Transportation Demand Management 80

SECTION 8. TRANSIT AND PEDESTRIAN IMPROVEMENTS 81

Sec. 8.1 Introduction 82

Sec. 8.2 Bedford Avenue and Crawford Avenue 83

Sec. 8.3 Centre Avenue and Washington Place 84

Sec. 8.4 Intersection Pedestrian Amenities 86

Sec. 8.5 Traffic Signalization 87

INTENT & IMPLEMENTATION: SECTION 9–11

SECTION 9. ILLUSTRATIVE MASTER PLAN 90

Sec. 9.1 Introduction 91

Sec. 9.2 Illustrative Block A 93

Sec. 9.3 Illustrative Block B 94

Sec. 9.4 Illustrative Block C 95

Sec. 9.5 Illustrative Block D 96

Sec. 9.6 Illustrative Block E 97

Sec. 9.7 Illustrative Block F 98

Sec. 9.8 Illustrative Block G 99

Sec. 9.9 Illustrative Block H 100

SECTION 10. IMPLEMENTATION STRATEGY 101

Sec. 10.1 Implementation Strategy 102

SECTION 11. DEFINITIONS 103

Sec. 11.1 Definitions 104

# Section 1. Introduction

Sec. 1.1 Purpose	2
Sec. 1.2 Organization of the Document	3
Sec. 1.3 Overview and Planning History	4
Sec. 1.4 Sustainable Community Requirements	5





Sec. 1.1 Purpose

1.1.1 Goals and Objectives

The Lower Hill Site Redevelopment will be an important part of defining Pittsburgh's future. The goal is to create a new high quality, mixed-use, sustainable development that will establish a renewed connection between Downtown Pittsburgh and the Hill District. Envisioned as a city neighborhood, the site will have an urban density that responds to its context and is pedestrian oriented.

1.1.2 The Role of the Lower Hill Site Redevelopment PLDP

Lower Hill Preliminary Land Development Plan (PLDP) is the technical designation of this document. The PLDP accompanies the SP-11 text for this district that defines the specific zoning requirements for the site. This document contains both mandatory development requirements and design guidance for the new district.

The PLDP establishes a set of requirements for accomplishing the vision depicted in the Illustrative Master Plan, which reflects the vision of stakeholders that participated in the design process. Sections 2 through 5 present development requirements. The remaining sections contain requirements where noted, but are otherwise recommendations. This PLDP is a departure from conventional zoning. While conventional zoning relies upon use designations as the primary determinant of site development and building envelope standards, this PLDP emphasizes the form of buildings and their location on a development site. Most importantly, this document is intended to encourage those sparks of creativity and inspiration from developers that will help create a remarkable rebirth of the Lower Hill and expansion of Downtown.

Upon the adoption of this Specially Planned District (SP District), this area will henceforth be defined as the Lower Hill SP District. As the project proceeds into implementation and private developers are brought on board, individual blocks or specific areas may be named and branded as may be required, such as for anchor tenants or for marketing purposes. Efforts to rebrand or rename specific portions should be done in consultation with the community.

1.1.3 The Illustrative Master Plan

The Illustrative Master Plan of the Lower Hill Site Redevelopment was prepared for the Lower Hill Site Redevelopment over many years of planning as a way to build consensus around a shared vision. Stakeholders include the Pittsburgh Penguins, Sports and Exhibition Authority (SEA), Urban Redevelopment Authority (URA), City of Pittsburgh, the Hill District Community, the Uptown Community, the Downtown Business Community, as well as other regional stakeholders. The plan represents a collective opinion about the form, density, and character of development desired for this part of the city. The Illustrative Master Plan was used as the basis for traffic and parking management and design, public amenities, and infrastructure planning, but is not intended to be the actual development plan. The final development plan will be defined by future developers and sponsors, and will be presented in a subsequent Final Land Development Plans (each an FLDP).



FIGURE 1.1 Parks within the site will be vibrant green spaces serving as a community gathering and events spaces, while serving the important functions of rainwater collection and retention.

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## Sec. 1.2 Organization of the Document

This page explains the organization of this document for use in planning and designing new development in the site area bounded by Crawford Street, Bedford Avenue, Chatham Square, and Centre Avenue. Sections 2 through 5 prescribe mandatory regulations, while the remaining sections contain a combination of regulations and design guides.

### SECTION 2: REGULATING PLANS

The regulating plans establish the framework and specific criteria for streets, blocks, open space, and buildings.

#### Section 2.2 The Specially Planned District

Identifies the boundary and sub-districts 1, 2, and 3.

#### Section 2.3 Blocks

This plan establishes the intended block structure, block sizes and areas, open spaces, and determined districts.



FIGURE 1.2 Section 2.3 – Courtyards and Open Space

#### Section 2.4 Streets and Connections

This plan depicts the street grid (and street types) that are intended to be established on the site and discusses essential pedestrian connections.

#### Section 2.5 Open Space and Courtyards

This plan describes the locations and areas of required Urban Open Space and recommends additional locations for other green space such as courtyards within development blocks.

#### Section 2.6 Street Frontages

The frontages prescribe the relationship between the building and the street. This section will determine the amount of block frontage to be occupied by buildings, and the elements that comprise a setback and frontage for buildings.

#### Section 2.7 Building Height

A permitted range (maximum and minimum) of building heights is indicated on this plan. Rules are provided that determine how to measure building heights on sloping sites.

#### Section 2.8 Parking and Service

This section establishes where the Permitted Parking Types and access points (curb cuts) can be located in each block and how to regulate them. On-street parking locations are also indicated.

### SECTION 3: STREET TYPES

This section provides detailed information on the intended design of public rights-of-way, including streets, sidewalks and utility systems that make up the streets types in the Lower Hill Site Redevelopment. The street sizes and designs were prepared with the assistance of traffic planners and landscape architects and respond to the anticipated access needs of development and ground floor uses.

### SECTION 4: BUILDING TYPES

Every building in the Lower Hill Site Redevelopment will correspond to one of the three building types identified in this section. The building types are based on size and height, and are not specific to use. This section provides mandatory standards and guidance for building massing, articulation, and materials.

### SECTION 5: SIGNAGE, LIGHTING, AND SITE ELEMENTS

Design regulations for building signage are provided in this section. Standards and recommendations for Sidewalk Cafes, Lighting, Materials, and Furnishings are also provided.

*Note: The remaining sections contain both regulatory language and design guidance. Refer to each section for specific details on each topic*

### SECTION 6: OPEN SPACE AND LANDSCAPE STANDARDS

Design standards for public rights-of-way, urban open space, and landscaping within the development blocks are provided in this section. Recommendations are also made for Lot Landscaping and Green Roofs.

### SECTION 7: SYSTEMS AND NETWORKS INTEGRATION

The Lower Hill Site Redevelopment must integrate and be integrated into many systems and networks. This section provides recommendations for integration of Stormwater, Utilities, Parking and Transit Systems and Bicycle Networks.

### SECTION 8: TRANSIT AND PEDESTRIAN IMPROVEMENTS

Recommendations for improvements to areas within and outside of the site are provided in this section as they have an important impact on the successful development of the Lower Hill Site Redevelopment. For reference, a complete transportation and parking study was conducted by Trans Associates and exists under separate cover.

### SECTION 9: ILLUSTRATIVE MASTER PLAN

The Illustrative Master Plan depicts the development possibilities of this PLDP. It is developed as a way to test capacity, build consensus among the stakeholders, and as a basis for traffic, parking, and engineering analysis. An illustrative design for each block is described in this section. The block studies illustrate a potential program, and the desired relationship between buildings and the public realm.

### SECTION 10: IMPLEMENTATION STRATEGY

Outline of the implementation strategy for the major components of redeveloping the site: site preparation, infrastructure, open space, and private development.

### SECTION 11: DEFINITIONS

Definitions of terms and words used in this PLDP are provided to aid in the understanding and implementation of the regulations and recommendations presented.



FIGURE 1.3 Goals for the Lower Hill site include sustainable development and LEED-ND certification. The above figure is a sample sustainability notes box that is used throughout the document to highlight goals. These boxes include0 LEED-ND prerequisites, and other specifications

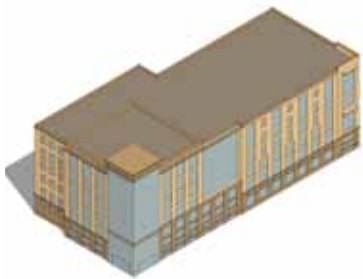


FIGURE 1.4 Section 4 – Sample Building Type

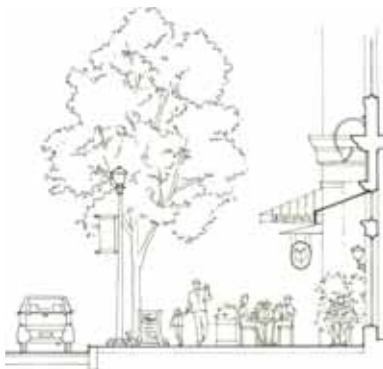


FIGURE 1.5 Section 5 – Sample Signage Regulation Drawing



## Sec. 1.3 Overview and Planning History

Urban Design Associates (UDA) was first commissioned by the Pittsburgh Penguins in 1999 to explore urban design alternatives for the redevelopment of the 28-acre Civic Arena site and to test alternative locations within the City of Pittsburgh for a new multi-purpose arena. The process involved stakeholders from the Hill District, Uptown, City of Pittsburgh, and Pittsburgh Penguins. These meetings produced urban design principles for the development of the 28-acre site. A primary goal was to reconnect the Hill District to Downtown Pittsburgh.

The process of planning, designing, and constructing a new arena took many years. In March of 2009, with the new CONSOL Energy Center under construction, UDA was asked to again revisit the plan for the 28-acre Civic Arena site. Working with an updated market study and development program prepared by Economics Division of AECOM (completed February 2010), UDA prepared an Illustrative Master Plan. The plan follows the urban design principles established ten years earlier, by replacing the Civic Arena and surrounding parking lots with an urban street grid and the development of housing, offices, and retail consistent with the *Greater Hill District Master Plan* published by Sasaki in June 2011. The plan is also consistent with the open space recommendations made in the Greenprint document prepared in 2009. The Illustrative Master Plan has the potential to add 1,200 residents and thousands of permanent jobs to the Lower Hill Site Redevelopment, not only increasing the real estate and wage tax base of the City, but also replacing the obsolete arena and surface parking lots with a vibrant neighborhood.

In 2011, the Penguins engaged the Department of City Planning to begin the process for establishing a Specially Planned District (SP District) that incorporates the 28 acre site and the CONSOL Energy Center site, and the Crosstown Boulevard I-579 cap. This process was an interactive discussion including the Penguins, SEA, URA, DCP, LaQuatra Bonci Associates (LBA), UDA, Oxford Development, and community representatives. At the outset, seven Planning and Design Goals were established to guide the process (see list below). These closely aligned with the original urban design principles that were identified in 1999. The Planning and Design Goals and collaborative evolution of the Illustrative Master Plan during the SP District process culminated in this PLDP document, which is a regulatory document for redeveloping the Lower Hill Site.

### 1.2.1 Specially Planned District Planning and Design Goals

#### A. Sustainability

The project seeks to establish a new standard for large-scale sustainable development in Pittsburgh. Sustainability will be a central tenet in design, construction, and operations; including a broad and dynamic use of landscaping to address heat island, light pollution, and stormwater concerns.

#### B. Urban Design

Regulating plans present development standards and goals that ensure the vision of the Illustrative Master Plan is brought to fruition. The standards are: set strong urban design principles, establish density thresholds, propose streetscape designs, and depict building placement and form standards. The goal is to establish predictability in the quality of human spaces while allowing for creativity in design and flexibility within the development.

#### C. Universal Design & Accessibility

The topography of the site changes significantly, and that condition combined with the goal of providing equal opportunities to all users makes the integration of “Universal Design” parameters an important component of the design. Special attention was given to the alignment and grades of streets and the location of public spaces to allow for an accessible public realm.

#### D. Transportation & Infrastructure

The design proposes to reestablish an urban street grid on the site in order to reconnect the Hill District to Downtown through better vehicular, transit, bicycle, and pedestrian connections. Site-wide innovative stormwater techniques reduce, reuse, and recapture stormwater. Alternate energy sources such as co-generation and geo-thermal technologies were investigated and are encouraged practices.

#### E. Open Community Process

The project will continue to engage the public in the design and implementation process. Involvement is channeled through focus groups, stakeholder gatherings, and open public meetings, and brought meaningful improvements to the design along the way.

#### F. Balance of Uses and Densities

The Illustrative Master Plan represents a targeted mix of uses as dictated by the 2010 market study. The regulating plans, however, allow for flexibility in development patterns to account for varying market demands while maintaining the necessary balance of density and uses to ensure success in every phase of development.



FIGURE 1.8 Site Locator Map: The site lies east of Downtown Pittsburgh and is surrounded by the Hill District and Uptown.

#### G. Implementation Program

An Implementation Strategy for development was established between the Penguins, SEA, and URA, and is governed by various agreements. Planning, design, and construction of the public and private improvements will be conducted jointly by the Penguins, SEA, and URA. As funding commitments for public infrastructure improvements are secured, end users and developers will be solicited and engaged to complete the private development consistent with the PLDP, SP District, and governing Agreements. See Section 10.1 for an outline of the Implementation Strategy.



## Sec. 1.4 Sustainable Community Requirements

The Lower Hill Site Redevelopment, as the SP District Planning and Design Goals state, seeks to be a sustainable new development in an urban context. The vital components of a sustainable community should not be limited to only green solutions for buildings and site work. The goal of sustainability is threefold — to reduce pollution, conserve energy and resources, and to enhance natural systems. In the book *Ten Shades of Green — Architecture and the Natural World* (Peter Buchanan and Kenneth Frampton, 2005) ten strategies are laid out:

- » Low Energy Performance – Achieved by making maximum use of natural light and ventilation
- » Replenishable Sources – Harvest non-depletable ambient energies of the sun, wind, waves, gravity, and geo-thermal power
- » Recycling: Eliminating Waste and Pollution – Re-use building materials, design buildings that are flexible and easily reused, recycle water and heat
- » Embodied Energy – Look at energy efficiency in material selection in terms of life-time energy use
- » Long Life, Loose Fit – Build with materials that endure and improve with age; green buildings not only accommodate change easily but are timeless and pleasant in character so that people prefer to conserve them
- » Total Life Cycle Costing – Balance capital cost with long term maintenance costs
- » Embedded in Place – Green buildings fit seamlessly into, help reintegrate and minimize negative impacts on their surroundings
- » Access and Urban Context – to be green, integrate multimodal transportation alternatives
- » Health and Happiness – Natural light, fresh air, and contact with nature and community provide a healthy lifestyle
- » Community and Connection – Achieve a sustainable culture by regenerating a sense of community and connections with the natural world

The planning team has adopted these principles, and has sought local and national experts to provide direction towards achieving this goal and setting a new standard for Pittsburgh. The approach to achieving a sustainable community in the Lower Hill Site Redevelopment is two-part: 1) develop the site in accordance with LEED for Neighborhood Development (LEED-ND); and 2) establish a sustainable stormwater management strategy.

LEED has long been the standard for sustainable buildings and development. LEED-ND is a rating system that combines the principles of smart growth, New Urbanism, green infrastructure, and green building. By following LEED-ND, the Lower Hill Site Redevelopment will successfully bring together development form, transportation systems, open space network, and green infrastructure.

LEED-ND recommends stormwater management that retains on-site rainfall volumes generated from the 80th up to 95th percentile rainfall depths. The City of Pittsburgh Stormwater Ordinance similarly requires publicly-funded development/re-development projects to have on-site management systems for rainfall events less than or equal to the 95th percentile. The stated 95th percentile rainfall depth in the ordinance (through the year 2015) is 1.2-inches. Accomplishing this for the Lower Hill Site Redevelopment requires a comprehensive strategy in stormwater management. The following pages outline a strategy and Section 7.2 of this PLDP provides additional details for meeting this requirement.

### 1.4.1 LEED-ND Requirements

The Lower Hill Site Redevelopment is well positioned to become LEED-ND certified or higher. Its urban location, proximity to transit and Downtown businesses, opportunity to build a new infrastructure system, and the potential for many high performing buildings, all help fulfill the standards of the scoring system. Certification, however, will require a continued, coordinated effort by all parties involved. The goal of all parties is to achieve LEED certification. This will require continued collaboration and coordination between public and private entities to ensure a successful outcome.

In an effort to establish a benchmark, the design team (in July 2012) scored the project based on LEED-ND 2009 requirements, using the Illustrative Master Plan and program, current statistics of the immediate surroundings and the collective desires of all stakeholders. Scoring was as anticipated, and justified the pursuit of certification as a basic goal with a higher level achievable. Therefore, LEED-ND prerequisites have been embedded in this PLDP document to establish minimum requirements for the development. Failing achievement of these will preclude certification. Developers and designers are responsible for complying to the latest version of LEED-ND to score the performance of their desired development, and individual developers should use reasonable efforts to coordinate with other developers within the Lower Hill Site Redevelopment to achieve LEED-ND certification for the entire site.

### 1.4.2 Pittsburgh 2030 District

“The Pittsburgh 2030 District is a collaboration of building owners in the central business district with the following goals for new buildings:

- » Energy Use: An immediate 60% reduction below the national average, with incremental targets reaching carbon neutral by 2030.
- » Water Use: An immediate 50% reduction below the District average.
- » Transportation CO2 Emissions: An immediate 50% reduction below the District average.

Improve indoor air quality through a measure to be determined by District partners. In addition to being designed to meet LEED-ND standards and striving to meet the goals of the District, the LHR will share performance assessments, best practices and lessons learned to inform this initiative.



FIGURE 1.9 Example of a sustainable street design that contributes to reducing off-site runoff.



1.4.3 Stormwater Management Requirements and Techniques

The following sustainable strategies focus on capturing and treating stormwater, providing for green infrastructure and buildings, as well as habitat restoration and urban planting strategies. The Urban Forest Master Plan also provides some best practices. The collective goal of all of these strategies is to better manage stormwater on the site.

A. Integration of Sustainable Techniques

The current urban landscape of the Lower Hill Site Redevelopment, which is currently paved and sloped is unique in that it offers enormous possibilities for revitalization. A new landscape — green, productive, and welcoming — can be achieved by applying innovative sustainable solutions to transform various aspects of the site. These should address the following:

- » Restoration of a system of native plant communities and habitats to connect this site to Greater Pittsburgh’s greenways, parks, and natural systems
- » Integration of best management practices to capture and cleanse stormwater run-off for reuse.
- » Creation of a functional open space system and series of streets, that are ecologically based as well as place makers
- » Restoring urban forests

The sustainable strategies applied to this site are divided into three categories that are derived from the application of new design standards that attempt to integrate the above sustainable practices. The sustainable strategies applied to this site are divided into three initiatives:

- » Public Right-Of-Way
- » Urban Open Spaces
- » Private Development Blocks

Each of these initiatives provide great potential for a variety of sustainable strategies, and each will have a different visual character. Any development promoted as ‘green’ or ‘sustainable’ should not only seek to restore lost natural processes but should also celebrate natural systems as an integral component of a healthy community. The following pages provide inspiration for strategies that might be employed in the Lower Hill Site Redevelopment and reinforce the unique landscape character of the district.

B. Public Right-Of-Way: Sustainable Streets

In the reconceived Lower Hill Site Redevelopment, sustainable streets will be employed where appropriate. The design intent of the Sustainable Street is to capture, control, and treat the ‘first-flush’ of rain fall. During storm events, there will be a tremendous volume of run-off generated from paved, impervious surfaces which will be captured and controlled by structured tree reservoirs. These reservoirs are small and designed with a limited capacity.

The strategies suggested for the Sustainable Street also mimic the natural infiltration process in controlled, limited means. Stormwater is directed through channels or runnels to pools or collection basins that are not only functional but sculptural. These pools or basins allow the water to soak back into the soil layers, while providing shade and greenery for pedestrians.

There is a structure and geometry to all the control features, following the geometric patterns of the streets and urban landscape features. Materials include broom finish and exposed aggregate concrete with permeable pavers between tree pits and stormwater basins. In addition permeable pavers could be used in the parking lanes or on sidewalks to further reduce stormwater runoff.



FIGURE 1.10 Precedent sketch showing roof runoff channeled to bioswales in curb bumpout planters



FIGURE 1.12 Curb cuts in planters allow stormwater runoff to enter infiltration planting pits.

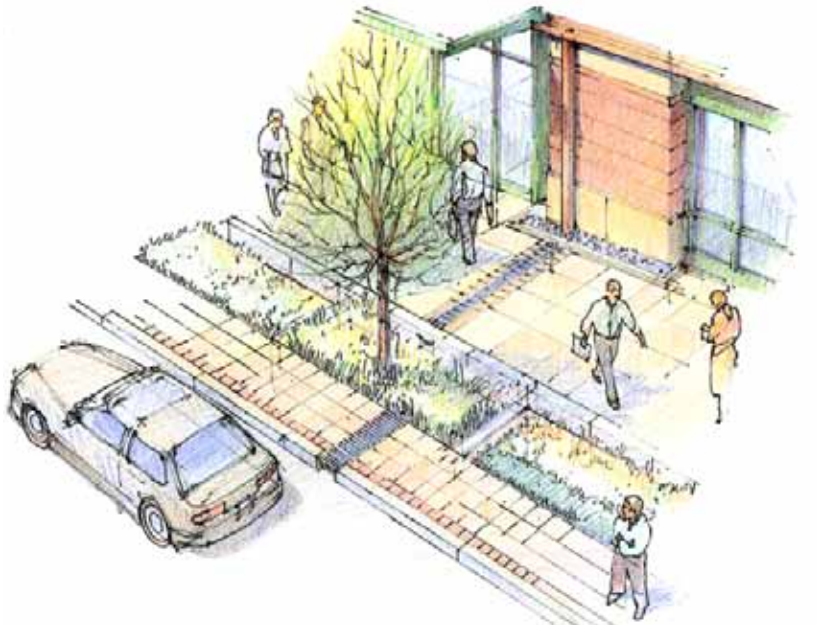


FIGURE 1.11 Precedent sketch showing roof runoff channeled to infiltration pits at street



FIGURE 1.13 Decorative grates cover flush curbs allowing street runoff to enter infiltration planting pits.



C. Green Space

Green space is a critical element of the design plan. This PLDP addresses the Urban Open Space (as defined by the City of Pittsburgh Zoning Ordinance) and other green space that is intended to create a distinct civic place for the neighborhood and region, provide passive recreation opportunities for residents, and provide opportunities for establishing ecosystems, habitats, and landscapes. Green space is ideal for recreating large expanses of habitat and handling large volumes of stormwater. During storm events, run-off is directed from adjacent streets and development parcels towards rain gardens and open space. These are sized and designed to handle storm events. Usable green space will function as temporary stormwater detention areas during storms. The main goal is to capture and treat the first flush of rainfall and slowly release it back into the water table by infiltration or into the storm sewers over time to reduce flooding occurrences.

Strategies suggested for all open spaces can be naturalistic as well as urban in form and character. Inspiration for the design of these features should be drawn from Pittsburgh's landscape. Walkways and paths should wind seamlessly through the landscape employing subtle control features. Phyto-remediation, reforestation, wildlife habitat creation, and slope stabilization can and should occur in open spaces.

In addition to landscape treatments within green spaces, alternative paving materials can be used to locally infiltrate rainwater and reduce the runoff leaving a site. This can help to decrease downstream flooding, the frequency of combined sewer overflow events, and the thermal pollution of sensitive waters. Use of these materials can also eliminate problems with standing water, provide for groundwater recharge, control erosion of streambeds and riverbanks, facilitate pollutant removal, and provide for a more aesthetically pleasing site. The drainage of paved areas and traffic surfaces by means of permeable systems is a key component on the Lower Hill Site Redevelopment that seeks to achieve a stormwater management system emulating natural conditions.

- When development occurs, the following criteria should be considered when laying out green space.
- » Sun Alignments: Where sun is abundant, shade for comfort and safety in activity areas should be provided through trellises, pavilions, or shade trees.
  - » Prevailing Winds: The major advantage of wind in recreational development is its cooling aspect. Orientation of site furniture should account for catching summer breezes while a portion should provide protection from winter winds.
  - » Relationship to Downtown: Maximize pedestrian access to the Downtown while restoring or creating natural habitats and ecosystems existing on-site.
  - » View Corridors: Views are an asset to the new district and reinforce a visitor's experience. Site location of amenities should maximize views of natural features and minimize views of visitor and support facilities.

D. Private Development Blocks: Green Roofs and Permeable Paving

Within private development blocks, developers should consider incorporating Green Roofs into their roof plan design. Numerous benefits can result from the adoption of Green Roof technologies including the recovery of green space, moderation of the urban heat island effect, improved stormwater management, water and air purification, and a reduction in energy consumption. A major benefit of Green Roofs is their ability to absorb stormwater and release it slowly over a period of several hours. Green Roof systems have been shown to retain 60–100% of the stormwater they receive. In addition, Green Roofs have a longer life-span than standard roofs because they are protected from ultraviolet radiation and the extreme fluctuations in temperature that cause roof membranes to deteriorate.

In addition to using green roofs to capture run-off, permeable paving may be used in private alleys, courtyards, and pedestrian ways in order to help control stormwater.



FIGURE 1.14 Stormwater retention area with native plantings and gabion walls



FIGURE 1.15 Native planting that increases habitat and is low maintenance



# Section 2. Regulating Plans

- Sec. 2.1 Introduction 9
- Sec. 2.2 The Specially Planned District 10
- Sec. 2.3 Blocks 11
- Sec. 2.4 Streets and Connections 12
- Sec. 2.5 Open Space and Courtyards 13
- Sec. 2.6 Street Frontages 14
- Sec. 2.7 Building Height 19
- Sec. 2.8 Parking and Service 20
- Sec. 2.9 Sub District 3 24

SUSTAINABILITY GOALS

- » Specify materials with recycled or reclaimed content, locally manufactured materials, and high performance materials
- » Design a neighborhood that has a mix of uses to reduce vehicle trips and provides an interconnected pedestrian network for ease of walkability
- » Design a neighborhood that provides multi-modal transportation options and encourages alternative modes (ie: frequent bicycle racks and bus shelters)
- » Implement a sustainable stormwater approach that reduces rainwater runoff while accumulating non-potable water for reuse in landscape and in servicing buildings

APPLICABLE LEED-ND POINTS (2009 Standards)

- NPD Pre 1 — Walkable Streets
- NPD Pre 3 — Connected and Open Community
- NPD Credit 1 — Walkable Streets, Facades and Entries, Ground Level Use, Parking, and Sidewalk Intrusion
- NPD Credit 5 — Reduced Parking Footprint
- NPD Credit 6 — Street Network
- NPD Credit 7 — Transit Facilities
- NPD Credit 8 — Transportation Demand Management
- NPD Credit 9 — Access to Civic and Public Space
- NPD Credit 10 — Access to Recreation Facilities
- NPD Credit 11 — Visitability and Universal Design





Sec. 2.1 Introduction

The Regulating Plans are created as the primary frameworks to the development of the site. This chapter contains regulations related to the location of key elements and relationships, while flexibility is maintained with regard to the form and location of buildings, the mix of uses, architectural character, open space design, and amenities. This section therefore prescribes the location of public rights-of-way, Urban Open Space (as required by the City of Pittsburgh Zoning Ordinance), frontages along streets, heights, access to parking, and the desired treatment of transit and parking facilities.



FIGURE 2.1 This illustration indicates the scale and density that can be achieved by following the regulating plans described on subsequent pages.



Sec. 2.2 The Specially Planned District

In connection with this PLDP, a SP District will be established pursuant to Section 909.01 of the City of Pittsburgh Zoning Ordinance. The SP District will be bounded as outlined in the plans to the right and will contain three Sub Districts. In addition to the Regulating Plans set forth in the PLDP, each Sub District will be subject to the Zoning Ordinances adopted for that Sub District (the SP Zoning Ordinances). The Regulating Plans and the SP Zoning Ordinances are intended to enable re-urbanization of the Lower Hill.

The uses permitted in each Sub District will be governed by the SP Zoning Ordinance. Sub District 1 is suited for residential uses, due to its proximity to existing residential use in the Hill District. Sub District 2 is suited for a mix of uses such as residential, office, retail, hotel, entertainment, and food and beverage. Sub District 3 includes the existing CONSOL Energy Center site and adjoining parking garage. Because Sub District 3 is part of a Master Plan approved by the City of Pittsburgh Planning Commission, the following pages give preference to Sub Districts 1 and 2. Regulating Plans for any changes to the future use of Sub District 3 are included in Section 2.9.

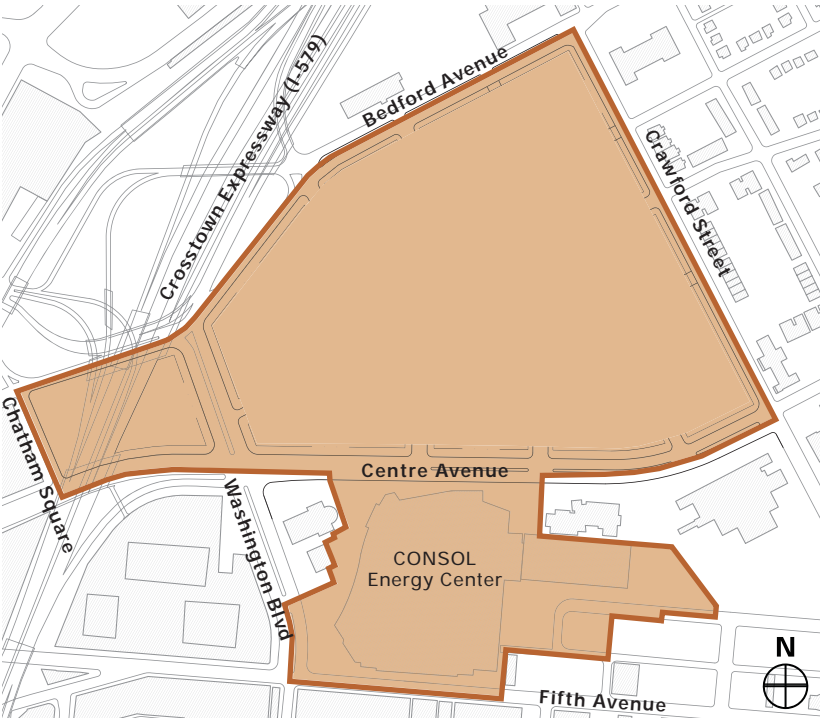


FIGURE 2.2 SP District Boundary Diagram

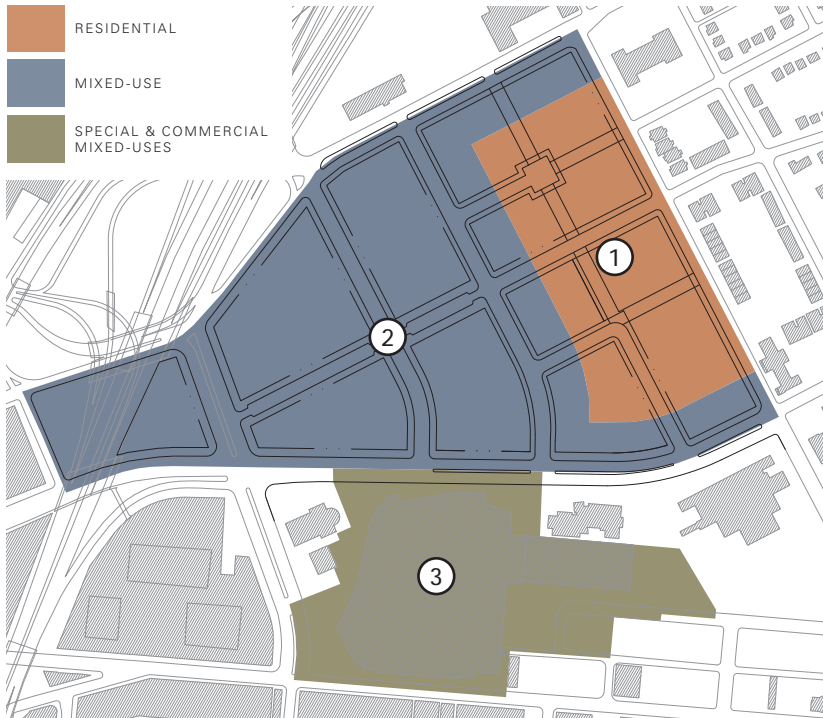


FIGURE 2.3 Sub Districts Diagram



FIGURE 2.4 Context for Sub District 1



FIGURE 2.5 Context for Sub District 2



FIGURE 2.6 Context for Sub District 3



Sec. 2.3 Blocks

Development Blocks are established in sizes that allow for flexibility, providing for a wide range of uses to be built within. The dimensions and acreage of each block are provided in the plan to the right. Blocks can be broken down further into development parcels for the purposes of phasing development projects. Each block is identified by a letter for reference within this document.

To fulfill the minimum Urban Open Space requirements of this development (10% of the gross land area), three parcels of land are identified. Further information about Urban Open Space can be found in Section 2.5 (refer to SP-11 text for additional guidance).



FIGURE 2.7 Block Regulating Plan Note: All dimensions and area quantifications are based on available GIS data and are horizontal measurements. Consult final site survey for accurate data.



Sec. 2.4 Streets and Connections

The streets within the site are laid out to work with the challenging grades while providing adequate development blocks. The street types range in width and include various sidewalk and landscape conditions to promote intended street character. All streets will be two-way traffic with on-street parking and street trees. The street types and perimeter sidewalk types are classified in the plan to the right. Further information for each type can be found in Section 3 of this document.

Several streets are designed to be 5% slope or less (see diagram below), therefore, they are identified as key pedestrian streets and shall meet accessibility standards. Streets with 5% slope or less are also ideal candidates for Sustainable Street stormwater management details and technologies. See Section 6 for further information on Sustainable Streets.

In addition to public streets, it is important to provide cross-block connections and pedestrian paths within the private development blocks to enhance mobility throughout the site. These connections can solely serve pedestrians via pathways or courtyards, or they may serve vehicles and pedestrians via private alleys. Blocks A, B, and C are required to have private alleys in some configuration in order to provide pedestrian connectivity. The plan to the right indicates one potential alignment for these alleys. These locations are flexible as long as they provide the intended connectivity depicted in the plan. These private alleys make be subject to a public easement with specific regulations to ensure the desired connectivity.



FIGURE 2.8 Accessible Streets and Connections Diagram

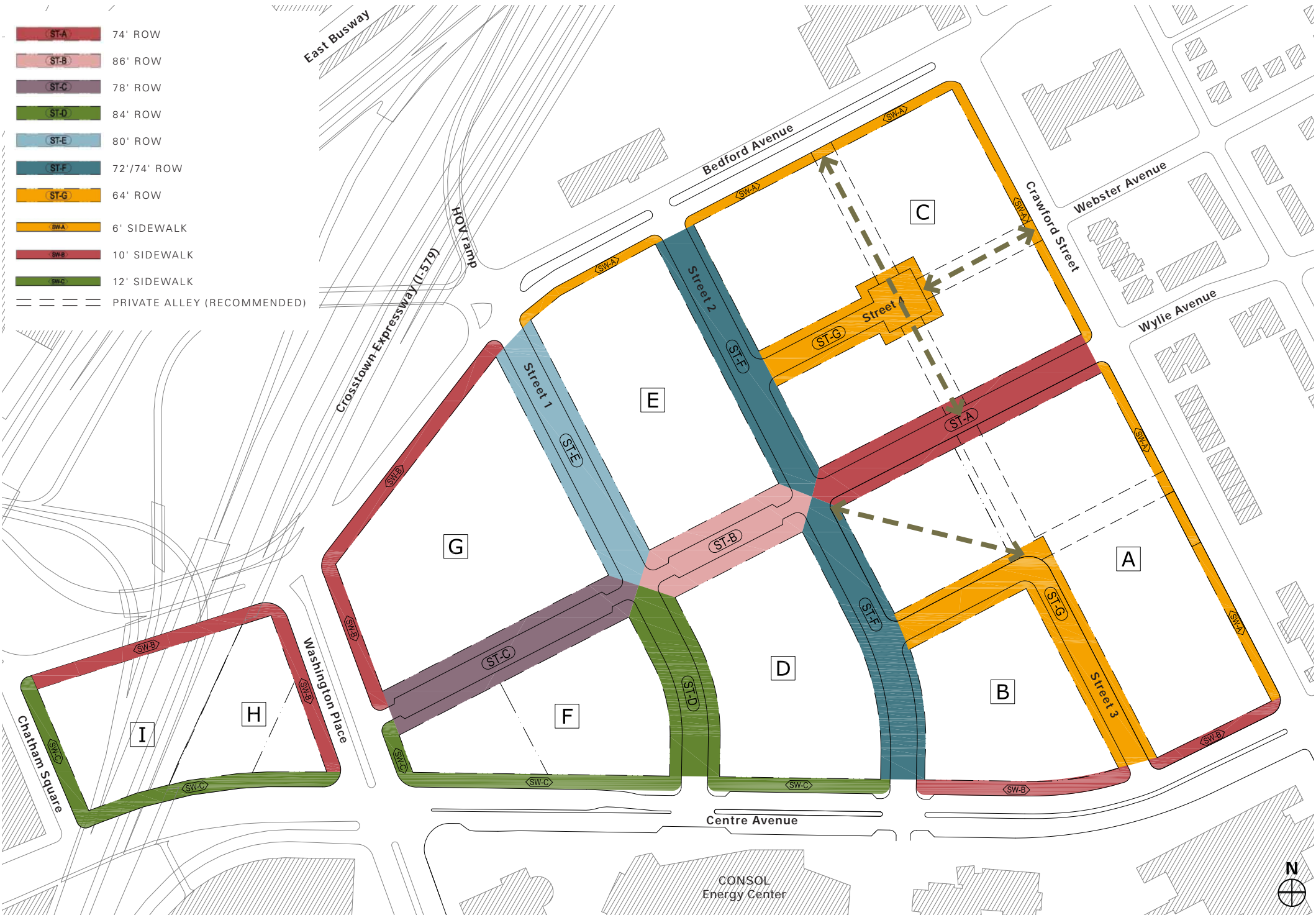


FIGURE 2.9 Street and Connections Regulating Plan



Sec. 2.5 Open Space and Courtyards

The Lower Hill PLDP is designed to make a meaningful impact on the City’s overall open space system. Three new Urban Open Spaces will comply with all standards for ‘Urban Open Space’ in Specially Planned Districts as set forth by the Zoning Code (Sec. 909.01.D.3). Combined, these Urban Open Spaces satisfy the zoning requirement that 10% of gross development area be dedicated urban open space. Other open space within the private development blocks (sometimes referred to as ‘Courtyards’) will not be required to reach the zoning requirements.

All of the green space will contain a mixture of soft landscape and paved areas designed to create a variety of areas with different functions, some of which are stormwater management. Urban Open Spaces are also an important part of the pedestrian connectivity and where possible should provide accessible walks. To preserve the integrity of Urban Open Space, surface parking lots and integral parking may not face onto these spaces.

The design of the two Urban Open Spaces (blocks F and H) that front the northern edge of Centre Avenue should ultimately accommodate visitors of district events. The CONSOL Energy Center and related entertainment uses anticipated for the area will have an impact on the Urban Open Space design and programming. Another Urban Open Space (block A) located more internal to the site will primarily serve residents and should include elements such as court sports, a playground, and small gathering areas. The proposed cap green space (block I) that would span over I-579 is not essential for meeting the Urban Open Space requirements, but is intended to create and enhance important pedestrian connections.

Stormwater Management goals (as described in Section 6) must be met through the combination of sustainable strategies within Urban Open Spaces, Public ROW and private development blocks. Courtyards or Private Alleys that incorporate sustainable systems are the primary ways that private development blocks can manage stormwater. Courtyards can also provide important pedestrian connections and amenity spaces for the anticipated program for the blocks. Similarly, sustainable Private Alleys are not required, but several blocks do require private alley connections that do not have to necessarily be sustainable.

Courtyard spaces and private alleys should be designed to be used by residents and/or the work force in the surrounding buildings. Courtyards may be at grade or above (such as terraced courts or landscape above podium parking) and include soft landscape or paved areas. Primary entrances to buildings shall be from the street-facing facades, yet secondary access can and should be provided from courtyards or private alleys.



FIGURE 2.10 Urban Open Space and Courtyards Regulating Plan



## Sec. 2.6 Street Frontages

The intent of this PLDP is to create an urban neighborhood, therefore development should cover 100% of every block face with the exception of access drives, alleyways and pedestrian access points. Building setbacks are also intended to create an urban neighborhood, therefore commercial frontages shall have a zero setback and residential frontages shall have a modest setback to allow for some separation from the sidewalk. To establish these conditions, buildings shall comply with the designated Street Frontage Types.

Street frontages govern basic parameters such as building placement and allowable condition between the building and the street (ie: terrace, yard, etc). Six Street Frontage Types are identified that allow for a range of residential and commercial possibilities. Generally, the eastern development blocks are assigned with primarily residential types to integrate with the adjacent residential neighborhood. Closer to Downtown and adjacent to the CONSOL Energy Center, the western development blocks are assigned with more commercial street frontage types.

Additionally, some frontages are categorized as Primary Frontage (in orange). These are frontages along important streets, framing Urban Open Space, or along important view corridors where attention to the pedestrian realm is specially crucial. Requirements for Primary Frontages include:

- » locate a prominent entrance on this facade versus a secondary frontage
- » even where allowed, curb cuts and driveways should be kept narrow and to a minimum
- » Exposed parking lots along primary frontages are not permitted. Structured parking on primary frontages may have additional architectural requirements in order to complement the pedestrian realm (see parking types for more information)

Those frontages not identified as primary are therefore considered Secondary Frontages and are not subject to additional requirements.

In the case that development blocks are subdivided, interior sideyard and rear yard conditions shall have a zero setback condition, except to accommodate green space or courtyards. Setbacks on Private Alleys are minimum 0 feet and maximum 6 feet.



FIGURE 2.11 Street Frontages Regulating Plan



2.6.1 Frontage Types

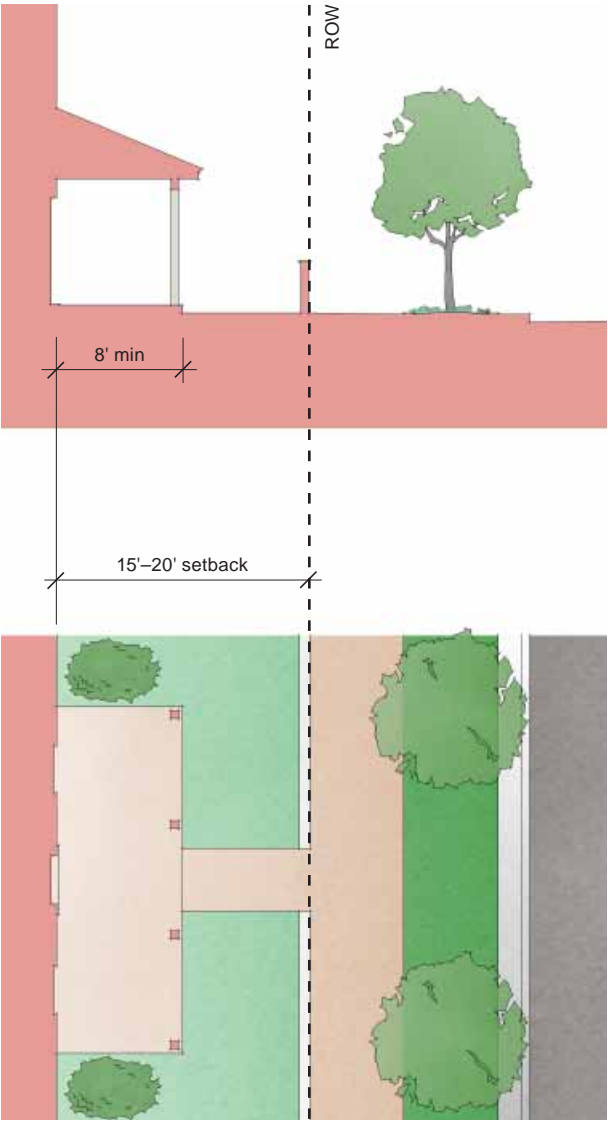


FIGURE 2.12 Frontage Type A

Ⓐ RESIDENTIAL FRONTAGE TYPE: PORCH AND FENCE  
A frontage where the facade is set back from the street ROW with an attached porch permitted to encroach in the setback. The porches shall be no less than 8 feet deep. A fence is permitted along the street ROW line (see section 6.7.1 for fence information). Required building setback: 15 feet minimum, 20 feet maximum.

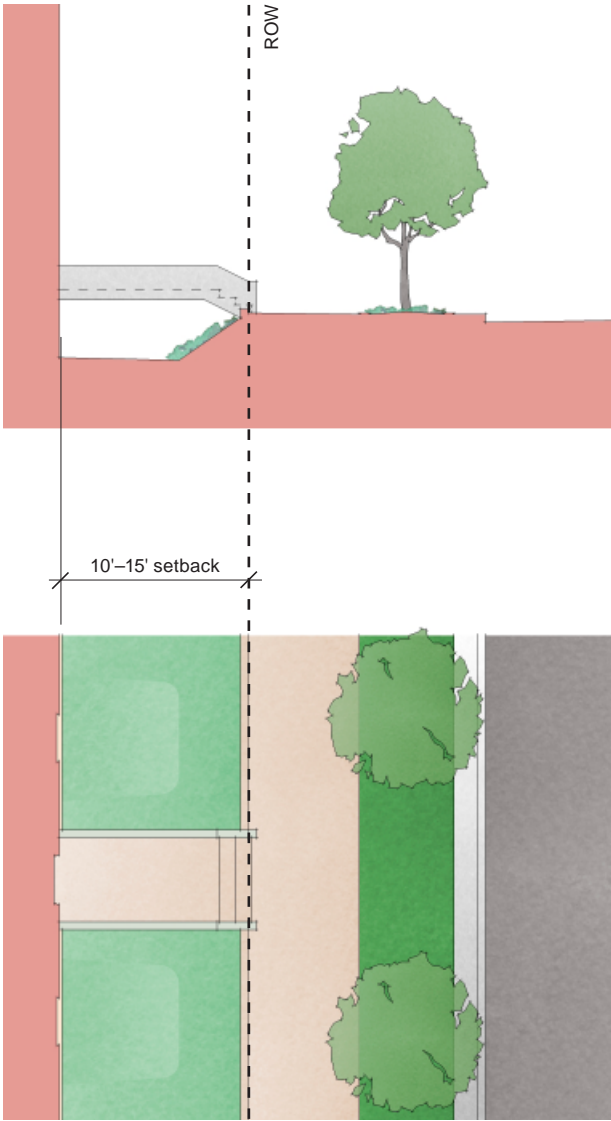


FIGURE 2.13 Frontage Type B

Ⓑ RESIDENTIAL FRONTAGE TYPE: TERRACE OR LIGHT COURT  
The Lower Hill is a sloping site that will require grading along the street frontage to transition from sidewalks to buildings. This frontage permits an elevated terrace or sunken light court. This frontage buffers residential uses from urban sidewalks and removes the private yard from public encroachment. Required building setback: 10 feet minimum, 15 feet maximum.

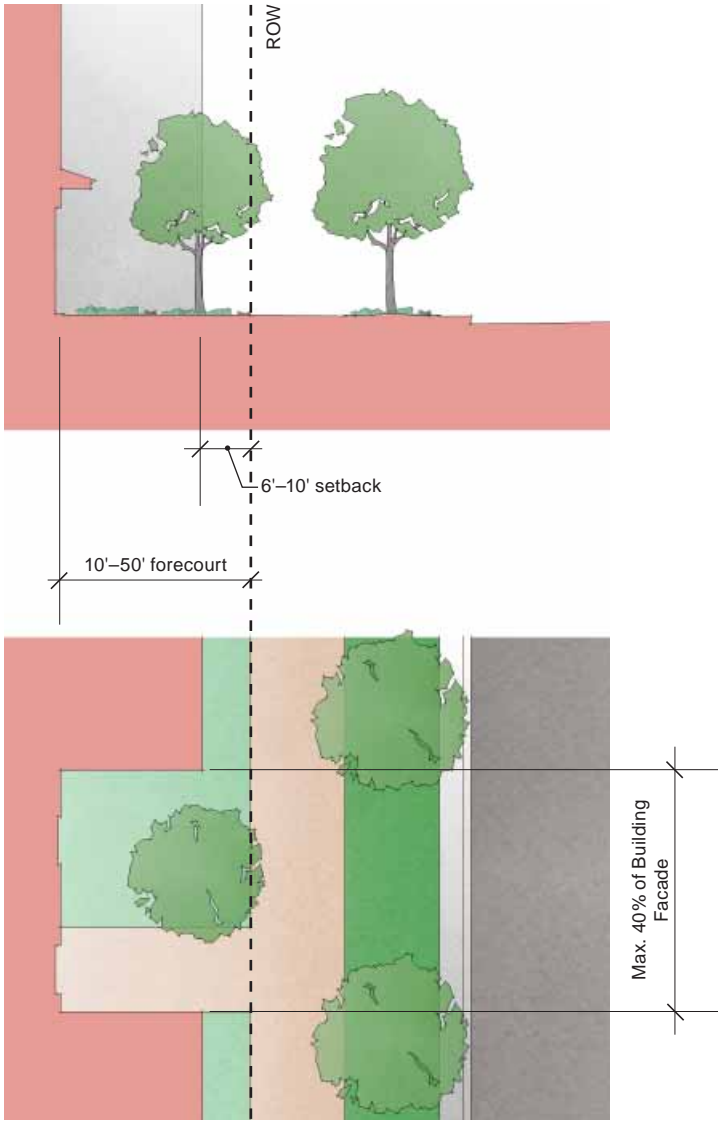


FIGURE 2.14 Frontage Type C

Ⓒ RESIDENTIAL FRONTAGE TYPE: FORECOURT  
A frontage where a portion of the facade is set back a minimal amount and the central portion has a deeper set back. The forecourt created is suitable for front gardens and gathering spaces. Deeper and wider forecourts can accommodate vehicular drop-offs if required. Required building setback: 6 feet minimum, 10 feet maximum. Allowable forecourt setback: 10 feet minimum, 50 feet maximum. Allowable forecourt width: maximum 40% of building facade.



2.6.2 Frontage Types

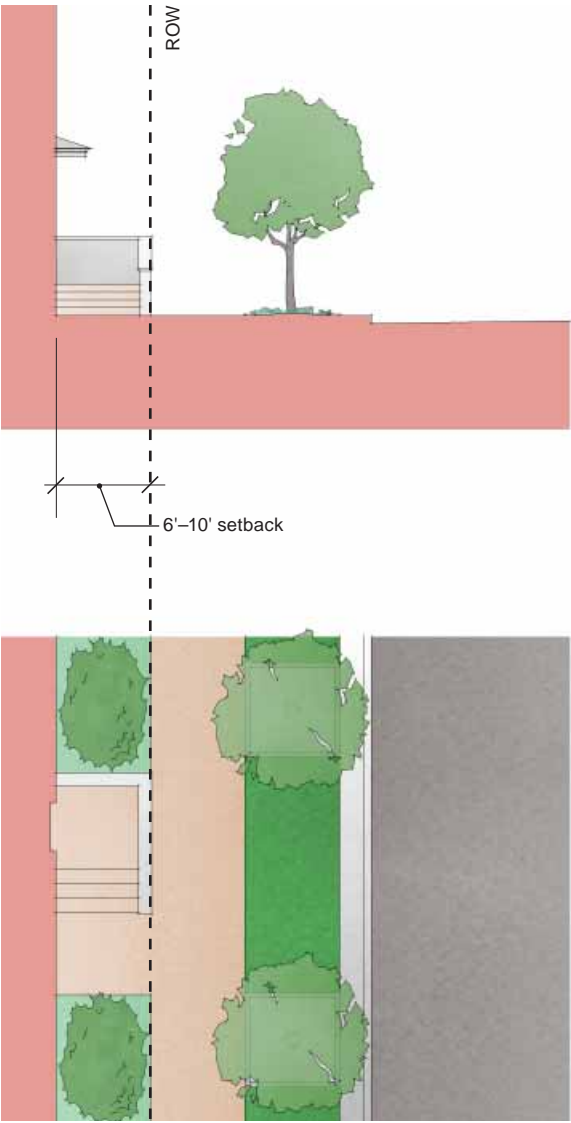


FIGURE 2.15 Frontage Type D

Ⓓ RESIDENTIAL FRONTAGE TYPE: STOOP

A frontage where the facade is setback from the street ROW with the first floor elevated from the sidewalk sufficiently to secure privacy for the windows. The entrance is usually an exterior stair and landing. Required building setback: 6 feet minimum, 10 feet maximum.

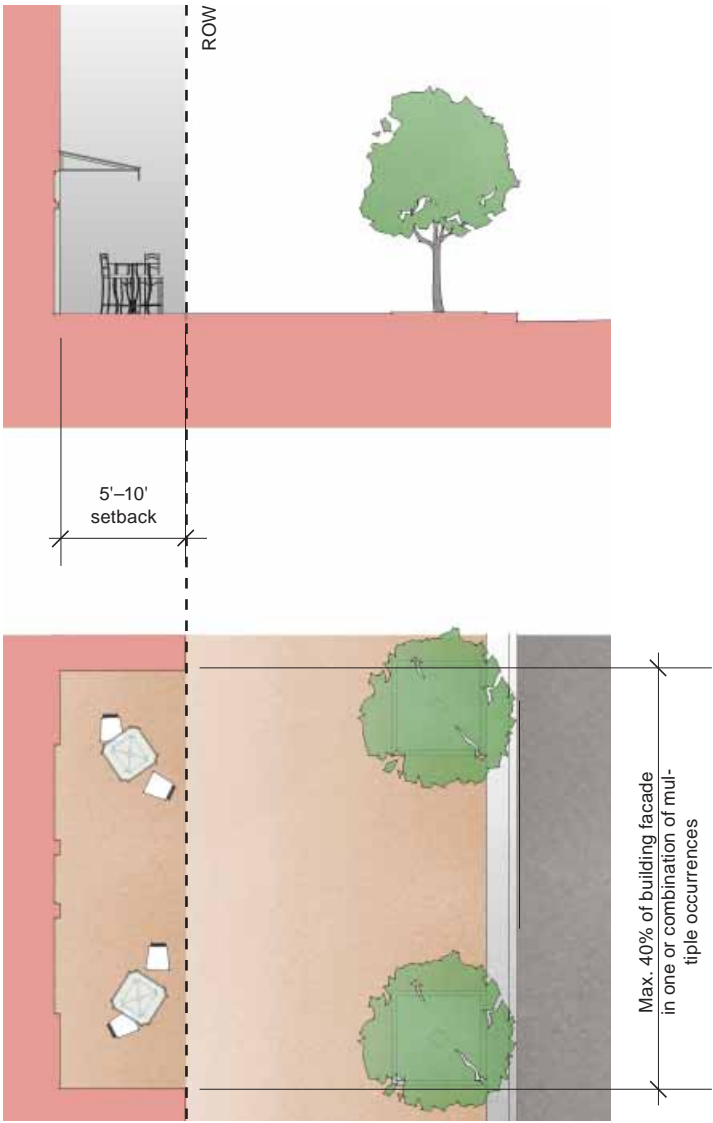


FIGURE 2.16 Frontage Type E

Ⓔ COMMERCIAL FRONTAGE TYPE: TERRACE

A frontage where the building is aligned with the street ROW and a portion is set back for building entrance or commercial activities. This type is conventional for retail use. The building must be placed on the right-of-way (0-foot setback). Allowable terrace setback: 5 feet minimum, 10 feet maximum. Allowable terrace width: maximum 40% of building facade.

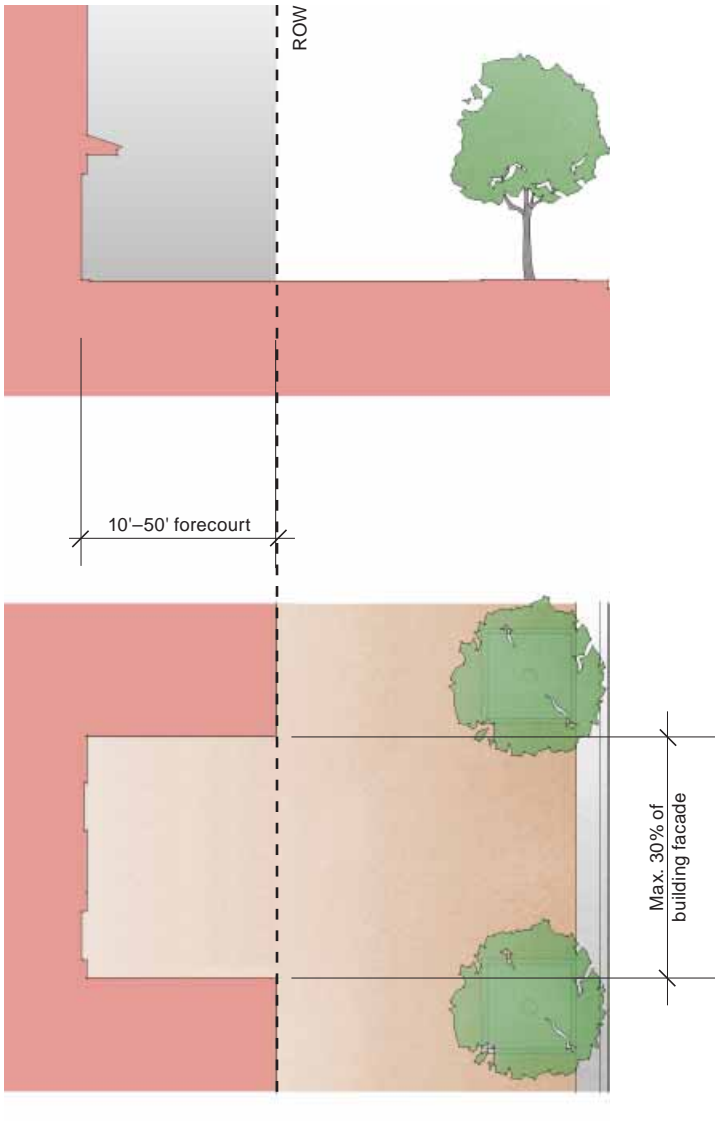


FIGURE 2.17 Frontage Type F

Ⓕ COMMERCIAL FRONTAGE TYPE: FORECOURT

A frontage where a portion of the facade is set back a minimal amount and the central portion has a deeper set back. The forecourt created is suitable for front gardens and gathering spaces. Deeper and wider forecourts can accommodate vehicular drop-offs if required. The building must be placed on the right-of-way (0-foot setback). Allowable forecourt setback: 10 feet minimum, 20 feet maximum. Allowable forecourt width: maximum 30% of building facade.



2.6.3 Frontage Type Applications

The intent of the examples on the following pages is to provide clarification to the frontage types and their possible applications. These are not the only possible applications, but have been developed in anticipation of the most common scenarios.

Frontage types are used to define a desired character along a street face and are independent of the building type. Although building types are described later in the document, the frontage regulations are what will define the desired urban form of the new district.

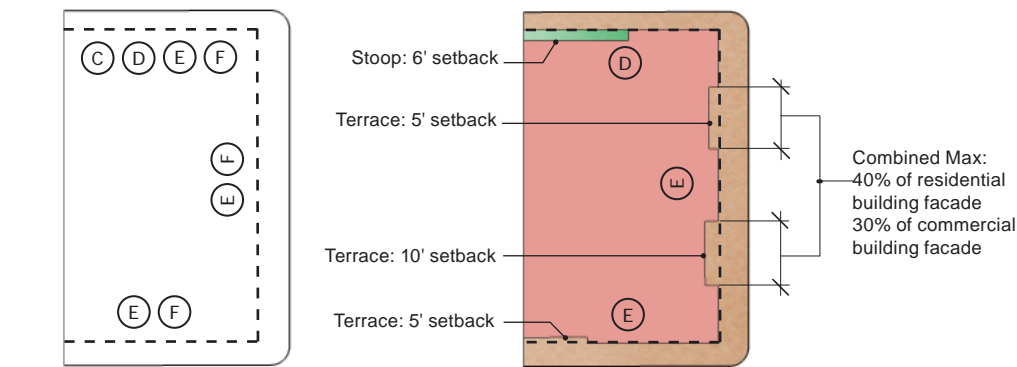


FIGURE 2.18  
Regulating Block Plan

A. Example: Typical Frontage

A typical application of Frontage Types D and E for a typical block can be found in the example diagram.

FIGURE 2.19  
Example: Typical One Building Application

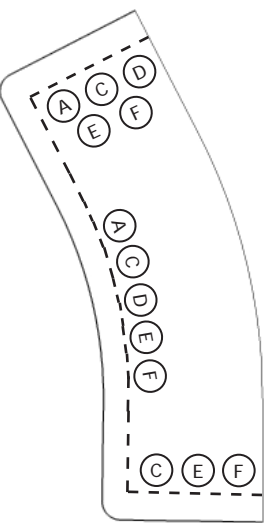


FIGURE 2.20  
Regulating Block Plan

B. Example: Curved Property Line Frontage

Example A depicts a possible frontage condition using a building with a curving facade. However, in conditions where a property line or lot is curved, the building facade is not required to be curved. Example B depicts a condition allowing the facade to be faceted in segments of up to (80) eighty feet in length. Each segment must touch the property line in at least one point along its length, and the adjoining segment must do the same, thereby following the curve in a number of facets. The maximum divergence from ROW is 5 feet. The unoccupied space remaining between the building and property line must comply with the regulation of the frontage type. By doing this, the building will still be considered as having a (0) zero foot setback.

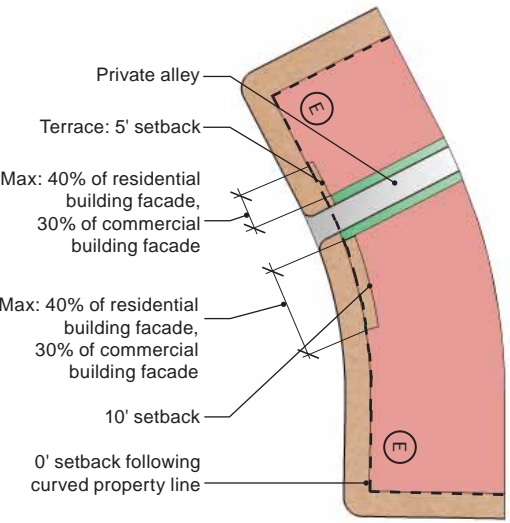


FIGURE 2.21  
Example A: Two Building Curved Frontage Application

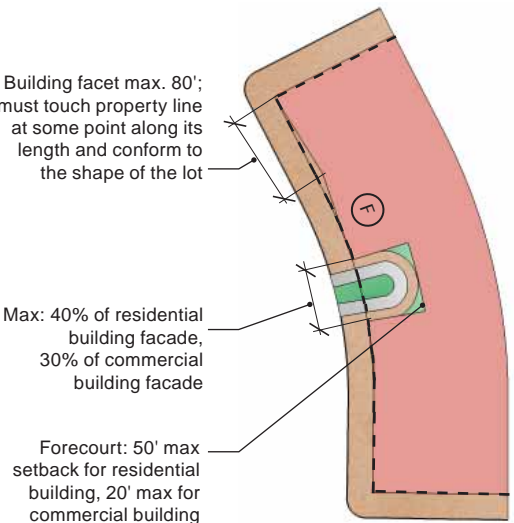


FIGURE 2.22  
Example B: One Building Faceted Frontage Application







Sec. 2.7 Building Height

To ensure a scale of development that successfully blends the scale and density of the Hill District to Downtown, Building Height limitations are established. Every block face is assigned a minimum and maximum height (in a few cases, only a minimum is prescribed). The height measurements are established from the level of grade along each particular street. All new buildings shall fall within this range. To preserve skyline views for the adjacent residential neighborhood to the east and to maximize views for new development, the tallest permitted building heights occur along the north and south edges of the site (Fig. 2.27). The definition for Building Height can be found in the Building Types Section of the PLDP.

Several locations within the plan are identified as Vista Terminus points. The buildings in these locations are to have an architectural treatment that will act to terminate important view corridors. This treatment can include, but is not limited to, towers, grand entries, bay projections, or other similar elements.



FIGURE 2.26 Conceptual Site Section: Red line indicates maximum building height within the site and green line indicates minimum building height. Each line is taken from center of Crawford Street to center of Washington Place.

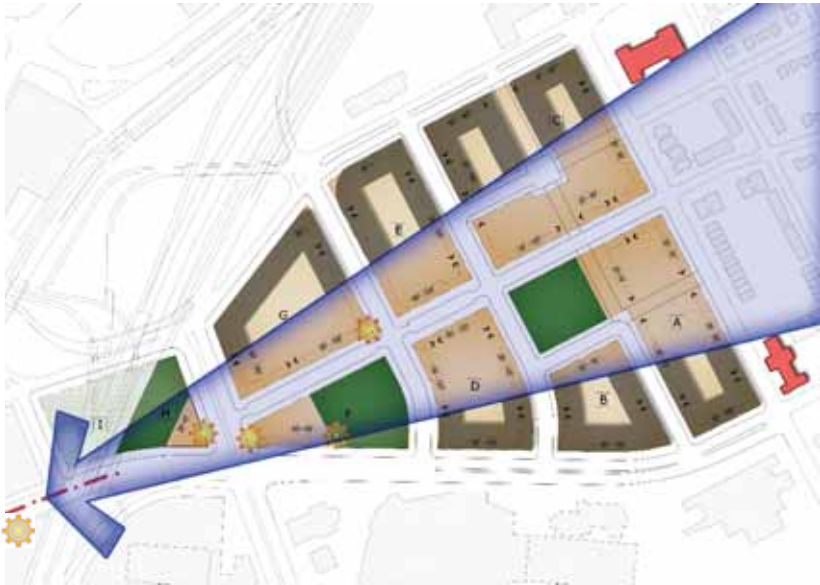


FIGURE 2.27 View Corridor Concept Diagram



FIGURE 2.28 Building Height Regulating Plan



## Sec. 2.8 Parking and Service

The Lower Hill is intended to be a mixed-use district that maximizes development frontage and places parking for short-term visitors, employees, and residents within the blocks and under buildings. Various types of structured parking will be necessary in most blocks to accomplish this goal. The permitted types of parking in each development block and parallel parking conditions along each new street are indicated to the right. No parking is permitted on Block H due to access constraints at the intersection of Washington Place and Centre Avenue. The parking types are described in detail in Section 2.8.3.

Uses will have varying times of peak parking demand, permitting shared parking in most blocks. A shared parking strategy should be carefully considered to make the most efficient use of parking resources. A substantial number of arena event visitors will park in garages located within walking distance of the CONSOL Energy Center.

On-street parking is to be provided throughout the plan. Street parking along Street 1 and Street 2, and along Bedford Avenue, Crawford Street, and Centre Avenue, will be prohibited during events so that parking lanes can become travel lanes.

On-street parking spaces shall not count towards the parking requirements of any use on the site. All residential buildings shall have dedicated parking for residents which will be located off-street, in garages or surface lots. Service areas such as loading zones and dumpsters shall be internal to the blocks (behind buildings) and accessed via private alleys. Service areas should be hidden from view of the street by being located beneath buildings, within garages, or screened by landscaping or buildings. No service doors or loading docks shall face onto the primary streets or green spaces. A cab stand should be located in a pedestrian accessible, centrally located location.

Curb cuts for garage driveways or private alleys shall be located at least 45 feet from street intersections (measured from perpendicular street curb line). Minimum distance between curb cuts shall be 25 feet. The permissible number of curb cuts along each street is regulated in the diagram at right. Curb cuts may vary in width and can include both ingress and egress lanes within one curb cut. Where no indication is provided, no curb cuts are permitted. Note that there may be additional curb cuts along the Urban Open Space frontages specifically for service and access to the Urban Open Space. Curb cuts may be installed on an interim basis for surface parking lots prior to final development.

In the case that a block is subdivided into smaller development parcels, each parcel is permitted to have a minimum of one curb cut provided:

- » the curb cut is on a block frontage that currently allows curb cuts
- » no more than two additional curb cuts are added to the currently specified number along a particular block frontage
- » minimum distance from an adjacent curb cuts is 25 feet (setback distance requirements from the intersection corner remain 45 feet)

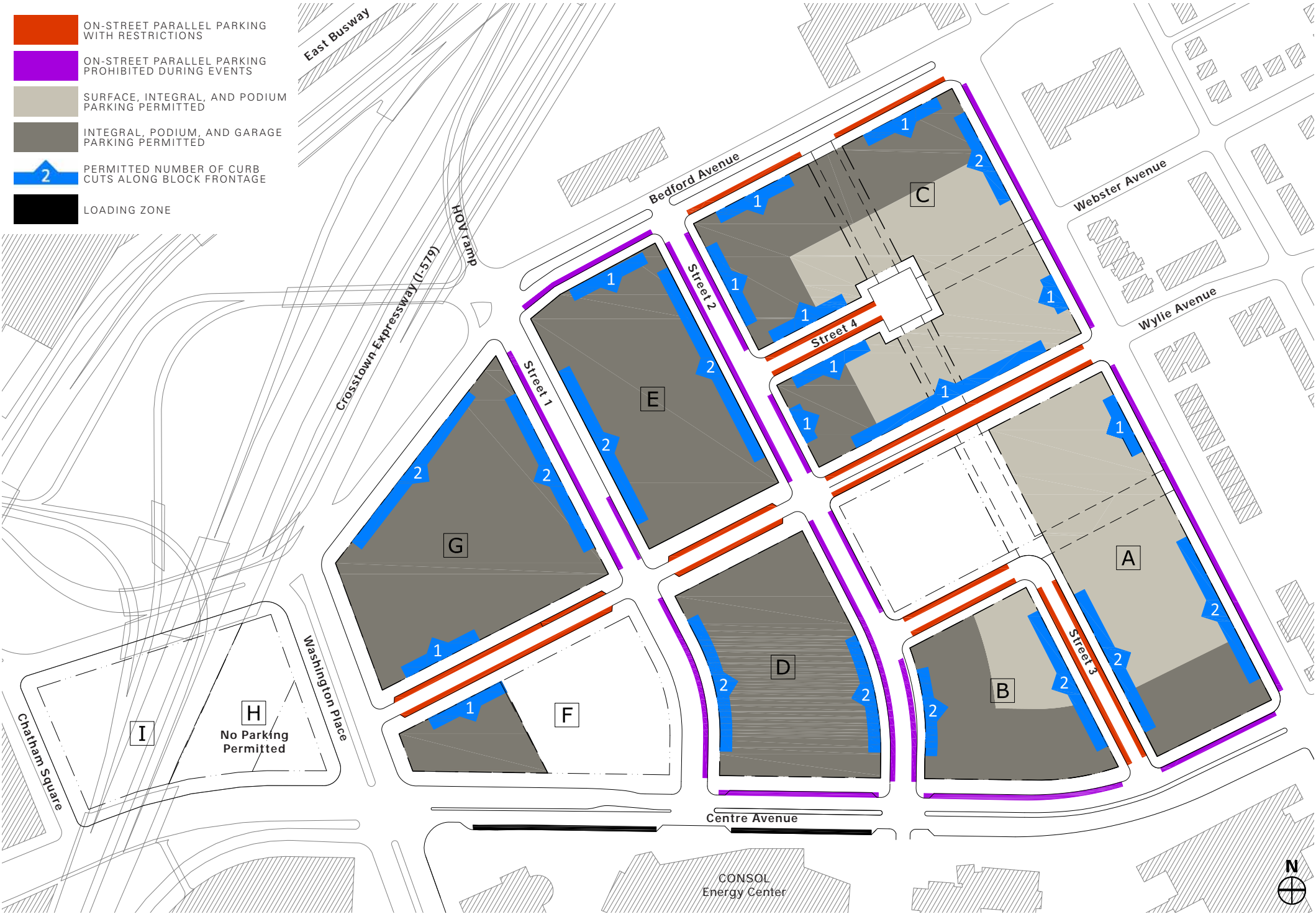


FIGURE 2.29 Parking and Service Regulating Plan



2.8.1 Parking Ratios and Shared Parking

This PLDP defers to Section 914 of the SP-11 text and the City of Pittsburgh Zoning Code for all parking ratios, requirements, and reductions. Based on the intended mix of uses on the site and proximity to public transit, significant reductions in parking can be taken. The following references provide guidance on parking related resources.

- » Required number of spaces: City of Pittsburgh Zoning Code, Chapter 914
- » Multi-modal parking reduction for office and cineplex uses: Pittsburgh Downtown Partnership Travel Survey
- » Note: This site is not within the CBD parking exempt zone.

For further guidance on this subject, please refer to Section 7.4 Shared Parking Network Strategies and the *Lower Hill Redevelopment Site Master Plan Transportation Study* by Trans Associates.

2.8.2 How Parking is Regulated

Four vehicular Permitted Parking Types are established for use in the Lower Hill Site Redevelopment: Surface Parking Lots, Integral Parking, Podium Parking, and Parking Garage Building. The following pages provide detailed information about each Permitted Parking Type. Upon generating the parking load for a particular project area, a parking type should be selected and implemented as described.

The design of parking lots and garages is regulated in the following ways:

A. Location on Block

- » Location: indicates location of where parking occurs on a development block and how it must address the adjacent right-of-way (refer to Figure 2.29).

B. Screening and Visibility

- » Minimum level of screening required parallel to a street right-of-way: Indicates the type of screening required of facilities depending on its location within the site.
- » Shade Trees and Parking Lot Landscaping shall be distributed around the lot as desired to intensify screening or create a landscape feature.

C. Permitted Blocks

- » Indicates in which Blocks that the parking type can locate.
- » Note: Underground parking can occur on any block.

D. Sustainability and Amenities

- » Bicycle racks, shared vehicle parking, and EV stations should all be included to achieve LEED-ND certification.



FIGURE 2.30 An example of layered landscape screening along a surface lot



FIGURE 2.31 When facing the interior of a block, podium or garage parking may be screened by landscape in place of an architectural facade. In this example, a layering of sidewalk, landscape and benches create an effective and attractive screen.



FIGURE 2.32 Example of podium parking where parking is entered off the street, and residential uses are stacked above the parking. Note how the architectural treatment of the building disguises the parking.



FIGURE 2.33 Example of a garage facade that is designed as if it were a building facade.



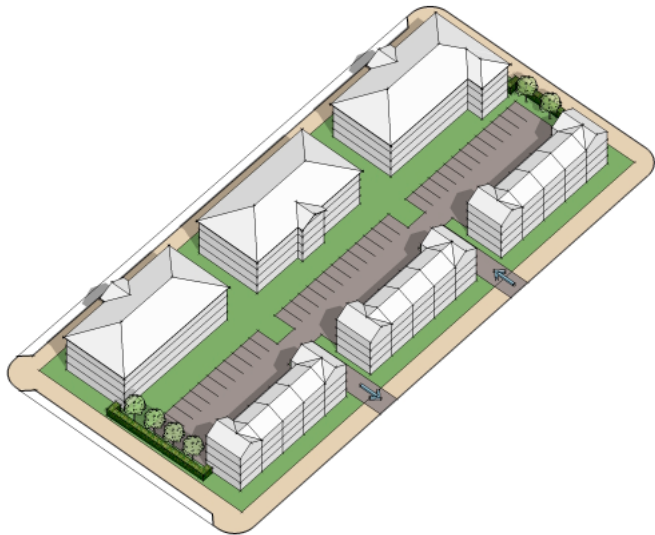
FIGURE 2.34 Examples of varying ways to treat parking garage facades along the street. Often corner elements may be emphasized as circulation locations.



FIGURE 2.35 Example of a parking garage with conditioned spaces lining the end and ground floor.



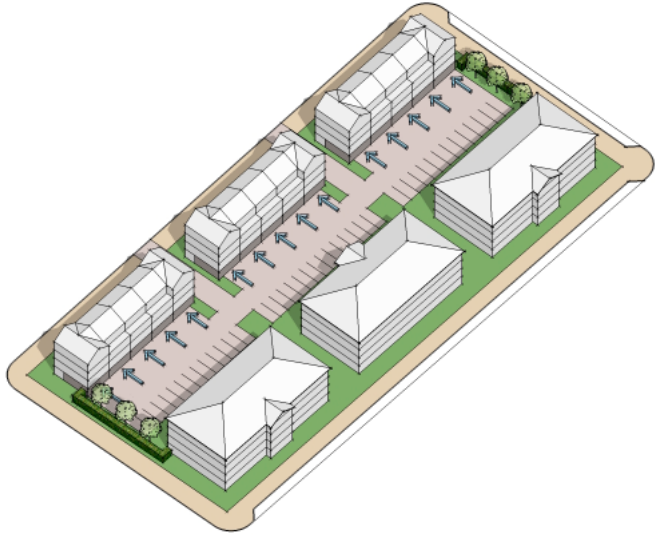
2.8.3 PERMITTED PARKING TYPES



A. Surface Parking Lots

- » Permanent surface parking lots are permitted in the interior of blocks and, with restrictions, to the sides of buildings. When located along a street, surface lots shall be no wider than 100 feet and shall be screened by low walls, fences, or landscaping in accordance with City of Pittsburgh Zoning Ordinance Requirements.
- » Any surface parking lot constructed of impermeable surface shall not exceed 30% of the parcel or block. Permeable materials are recommended for parking lots whenever possible.
- » Permanent surface parking is prohibited on corner parcels unless screened by a building with active uses.
- » Permanent surface parking must be accessory to residential uses within the same parcel or block in a final.
- » Where possible, surface lots should be accessed from private alleys versus dedicated access drives to reduce the need for curb cuts.

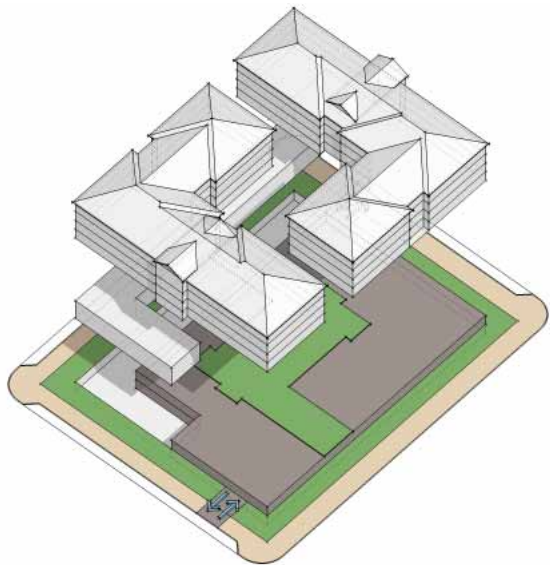
TABLE 2.1 Surface Parking Lot Requirements	
Location On Block	
Location	Center of block or to side of building
Minimum setback from a street right-of-way.	30 ft
Screening and Visibility	
Minimum level of screening required parallel to a street right-of-way	Low wall, fencing or landscaping
Permitted Blocks	A, C



B. Integral Parking Requirements

- Integral parking occurs in buildings where enclosed parking is desired underneath a building and associated with a specific residential unit (commonly referred to as 'tuck-under'). Integral parking facilities are not permitted to be visible or accessible from the addressing street. Parking shall be accessed from only the alley or interior of the block. Along corners or secondary streets, the parking should be screened by low walls, fences, or landscaping.
- » Buildings incorporating integral parking shall either be 5 feet from the rear property line (to allow for utilities and standing area outside of door) or minimum of 18 feet but nothing in-between (so that a parked car is not blocking the private alley).
  - » Individual residential unit garage entries shall not enter onto any street type other than an Private Alley.

TABLE 2.2 Integral Parking Requirements	
Location On Block	
Location	Facing interior of block
Minimum setback from a street right-of-way (feet)	20 ft
Screening and Visibility	
Minimum level of screening required parallel to a street right-of-way	Conditioned Space
Permitted Blocks	A, B, C, D, E

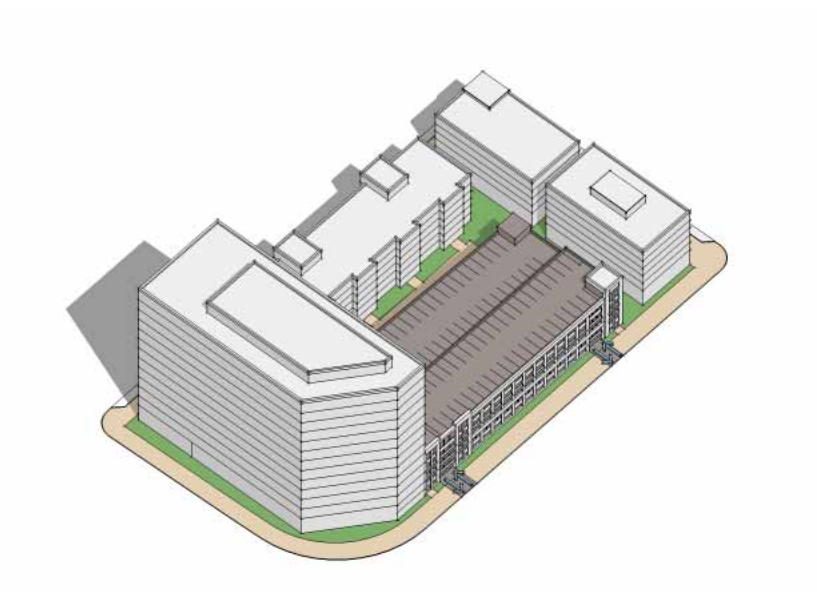


C. Podium Parking Requirements

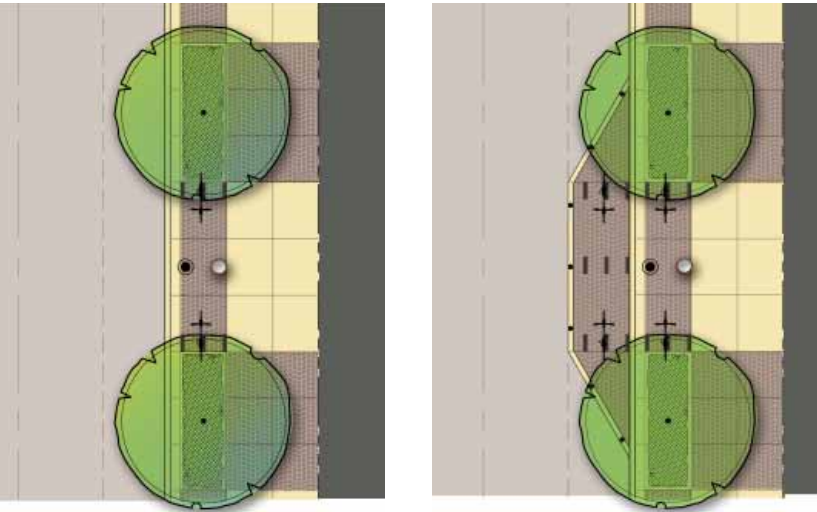
- Podium parking may be used in locations where either topography or density encourages siting parking beneath one or more buildings. Podium parking is intended to have minimal reveal along street frontages except at vehicular entry points and is encouraged to be lined with an active use. The top of the podium parking that is not occupied by a building should be treated as an courtyard with landscaped areas so as to provide an amenity to residents and the work force of the block. This landscape space should contribute to stormwater capture, retention and filtration. Bicycle racks, shared vehicle parking, and electric vehicle charging stations should all be included to achieve sustainability goals.

TABLE 2.3 Podium Parking Requirements	
Location On Block	
Location	Below grade
Minimum setback from a street right-of-way (feet)	0
Screening and Visibility	
Maximum reveal of garage where not lined by active use above-grade along a street right-of-way (feet)	5
Permitted Blocks	A, B, C, D, E, F, G





**D. Parking Garage Building Requirements**  
Parking garages must follow requirements established by the building heights regulating plan. Parking garages shall be given an architecturally articulated street facade with clearly defined openings. It is recommended that a commercial use should line the garage on street-facing facades.  
Bicycle and shared vehicle parking shall be provided to comply with LEED-ND and LEED-NC (if applicable) requirements.



**E. Bicycle Parking**  
Bicycle parking is encouraged throughout the site and shall be evaluated based on the following standards in addition to otherwise applicable zoning code requirements:

- » Bicycle parking and location allocation should meet LEED-ND requirements.
- » At a minimum, bicycle parking shall be located at all open spaces, near bus stops, and on the premises of all public or semi-public uses.
- » Bicycle racks shall not position bicycles in a manner that obstructs a minimum 5-foot clearance along walks.
- » Provide for bike corrals within Parking Lanes following the City of Pittsburgh's standards.



**F. Electric Vehicle Charging**  
Electric Vehicle Charging Stations are recommended in garages.

TABLE 2.4 Parking Garage Building Requirements	
Location On Block	
Location	Center of the block
Minimum setback from a Street right-of-way (feet)	0
Permitted Blocks	B, D, E, G



Sec. 2.9 Sub District 3

Sub District 3 includes the existing CONSOL Energy Center, its loading and service area, and adjoining parking garage. The Sub-District is subject to the Master Development Plan approved by the City of Pittsburgh Planning Commission on January 14, 2008 and Project Development Plan No. 0812 approved by the Planning Commission on May 6, 2008. In the event of future additions or reconstruction of all or portions of the structures, the regulating plans presented here are intended to regulate development.

Additionally, these regulations reserve the right for the existing Urban Open Space to be reduced to accommodate amenities such as sidewalk cafes, provided an FLDP is submitted and the overall Urban Open Space for Sub-District 3 does not fall below 10% of the acreage comprising Sub-District 3.

2.9.1 Block, Urban Open Space, and Pedestrian Connections

The Development Block for Sub District 3 is predetermined by the 2008 Master Development Plan (MDP) and essentially envelops the CONSOL Energy Center, its loading and service area, and adjoining parking garage. Urban Open Space is in excess of the required 10% and this PLDP reserves the right to reduce the open space to the required 10%. As part of the MDP approval, a pedestrian connection was provided from the CONSOL garage entrance on Centre Avenue to Stevenson Street. In the event funding is identified, the garden passage pedestrian connection shall also be provided.

2.9.2 Street Frontages

Street frontage types are assigned, and regulations must follow those established for Sub Districts 2 and 3. Refer to Section 2.5 for further information. No street frontage types are assigned to frontages that are considered internal and not facing primary streets.



FIGURE 2.36 Block, Urban Open Space, and Pedestrian Connections Regulating Plan



FIGURE 2.37 Street Frontages Regulating Plan



2.9.3 Building Height

Building height limitations are assigned, and regulations must follow those established for Sub Districts 2 and 3 and as set forth in Figure 2.38. Refer to Section 2.6 for further information. No building height limitations are assigned to block faces that are considered internal and not facing primary streets.

2.9.4 Parking and Service

Parking and Service regulations are assigned, and must follow those established for Sub Districts 2 and 3. Refer to Section 2.6 for further information. In accordance with the MDP, no curb cuts are assigned to the perimeter of the sight facing primary streets beyond the existing entrance to the existing garage attached to the CONSOL Energy Center. Modified on-street parking for the southern side of Centre Avenue is discussed in Section 2.7. On-street parking along Fifth Avenue remains as it is today, prohibited during events.

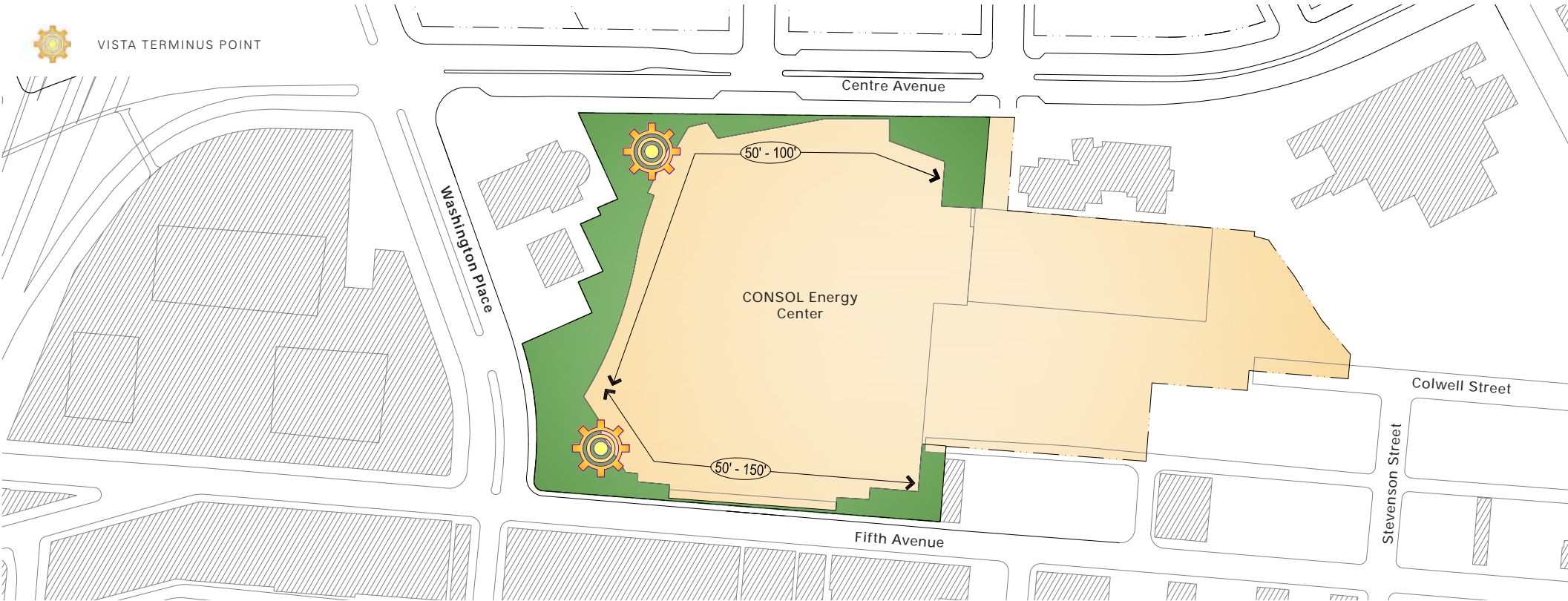


FIGURE 2.38 Building Height Regulating Plan

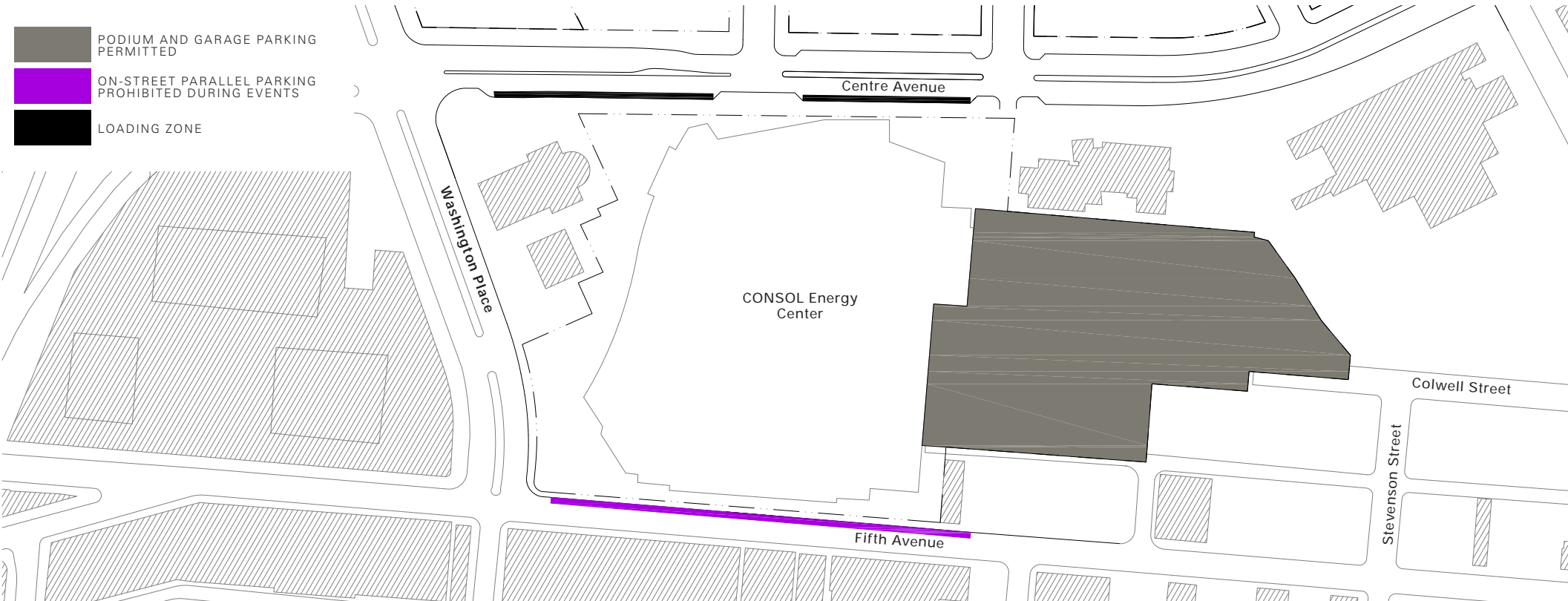


FIGURE 2.39 Parking and Service Regulating Plan



# Section 3. Street Types

Sec. 3.1 Introduction 28

Sec. 3.2 Sustainable Streets 29

Sec. 3.3 Street Type A 30

Sec. 3.4 Street Type B 31

Sec. 3.5 Street Type C 32

Sec. 3.6 Street Type D 33

Sec. 3.7 Street Type E 34

Sec. 3.8 Street Type F 35

Sec. 3.9 Street Type G 36

Sec. 3.10 Sidewalk Types A, B, and C 37

Sec. 3.11 Private Alley 38

## SUSTAINABILITY GOALS

- » Promote a walkable neighborhood by providing a safe, appealing and comfortable street environment, including continuous sidewalks, on-street parking or a planting strip between the sidewalk & the street as a buffer zone to enhance the sidewalk's walkability and streetscapes amenities, such as benches, street lights, bicycle racks
- » Reduce urban heat island effects by providing street trees and specifying materials with appropriate solar reflective index
- » Specify recycled and reclaimed materials for infrastructure such as streets, sidewalks, curbs, base and sub materials, underground tanks, and piping
- » Specify permeable paving materials where appropriate
- » Implement sustainable street landscapes where grading permits to contribute to the reduction of stormwater runoff

## APPLICABLE LEED-ND POINTS (2009 Standards)

- NPD Pre 1 — Walkable Streets
- NPD Credit 1 — Walkable Streets: Design Speeds for Safe Pedestrian and Bicycle Travel
- NPD Credit 14 — Tree-lined and Shaded Streets
- GIB Credit 8 — Stormwater Management
- GIB Credit 9 — Heat Island Reduction: Non-roof Measures
- GIB Credit 15 — Recycled Content in Infrastructure
- GIB Credit 16 — Solid Waste Management: Recycling Receptacle Integration

Sec. 3.1 Introduction

The streets in the Lower Hill Site Redevelopment are coded by type. This section provides detailed information about each street type for everything within the street Right-Of-Way (ROW). Organization of the types is by ROW width. Wylie Avenue, Street 2 and Street 1 will function as Urban Connectors. Some streets will be small in scale and have more of a passive feel, while others will be more animated with a mix of uses and outdoor dining, resulting in a more active environment. Standards for sidewalks internal to the site are incorporated into the street type standards. Sidewalks on the exterior perimeters of the site have their own respective type designations based on the width of the sidewalk itself.

Streets play a critical role in managing stormwater, and will therefore be designed to help meet the requirement to capture the 95th percentile runoff on site. Despite the steep topography, the four internal streets with the majority of pedestrian traffic have been designed to a 5% slope and will therefore be fully accessible. These streets (shown in green in Figure 3.1) are ideal to apply infiltration planters that capture the first 1.2 inches of rainwater. More information about this landscape treatment can be found in the Open Space and Landscape Standards section.

The pages that follow describe the desired character of each street type.



FIGURE 3.1 Sustainable and Accessible Streets Diagram



FIGURE 3.2 Streets Type Diagram



## Sec. 3.2 Sustainable Streets

One important goal for the Lower Hill Site Redevelopment is to capture, treat, and slowly release stormwater that falls in the public realm including public street right of ways. Therefore, a strategy for the integration of sustainable streets is required. This strategy includes the use of tree box filters and other devices to capture rainwater from public sidewalks and streets.

One possible design technique is a stormwater infiltration basin (tree box filter) that is designed to the following criteria:

- » Minimum size shall be 100 square feet.
- » Capacity shall include 7 inches of depth above topsoil depth to handle storm surges.
- » Soil depth shall be a minimum of 30 inches and be comprised of a bio-retention soil medium to infiltrate water.
- » At least one curb cut with grate covering shall be located at the top of each tree box filter.
- » On the sidewalk side, the curb shall be broken in at least two locations to allow water to enter the tree box filter.
- » An overflow device shall be installed to handle any overflow capacity tied into the stormwater infrastructure.
- » For gradients over 5%, site specific catchment techniques should be considered as a recommendation above these criteria.
- » The use of permeable pavers should be used as a secondary source of stormwater control if needed.

Tree box filters should be designed to site specific conditions when construction begins. Depending on the steepness of the slope and site specific conditions, the above recommendations are flexible.

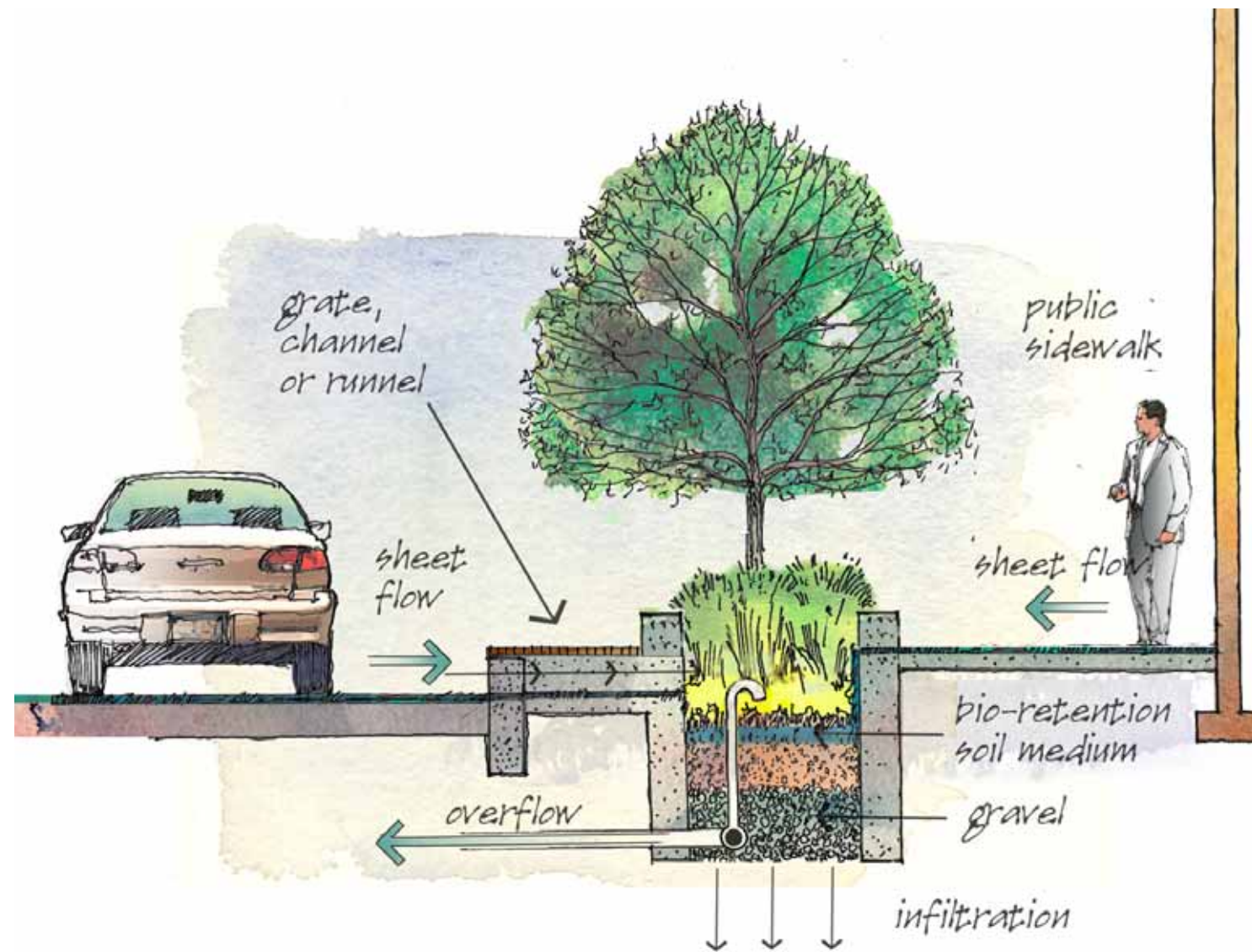


FIGURE 3.3 Prototypical example of stormwater infiltration basin

Sec. 3.3 Street Type A

Street Type A is designed with a 10-foot sidewalk and a 6-foot tree planting area, which provide for an additional buffer along heavily travelled streets. A mix of residential and commercial uses are best suited along these streets. Large street trees will shade sidewalks as required by applicable city code. Parallel parking will serve as short term and visitor parking. Refer to Section 5.5 for material types within the ROW.

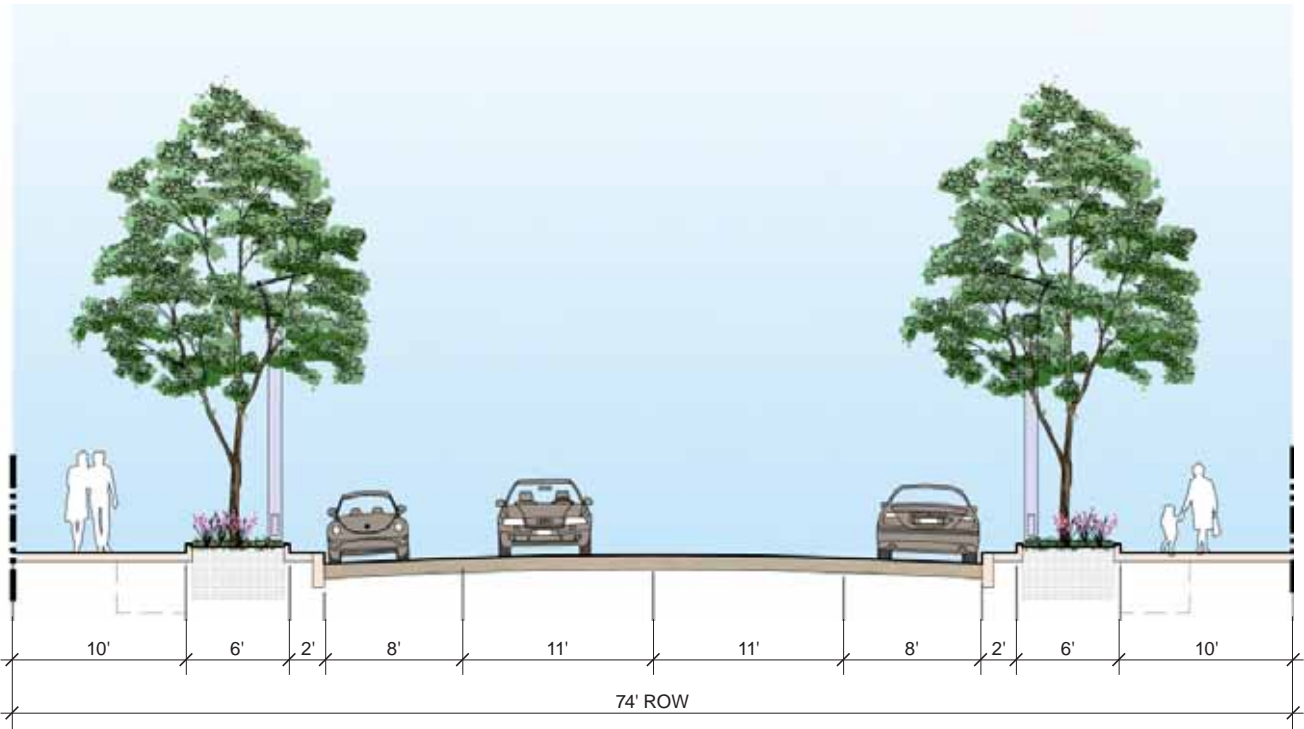


FIGURE 3.4 Street Type A Section



FIGURE 3.5 Street Type A Location Diagram

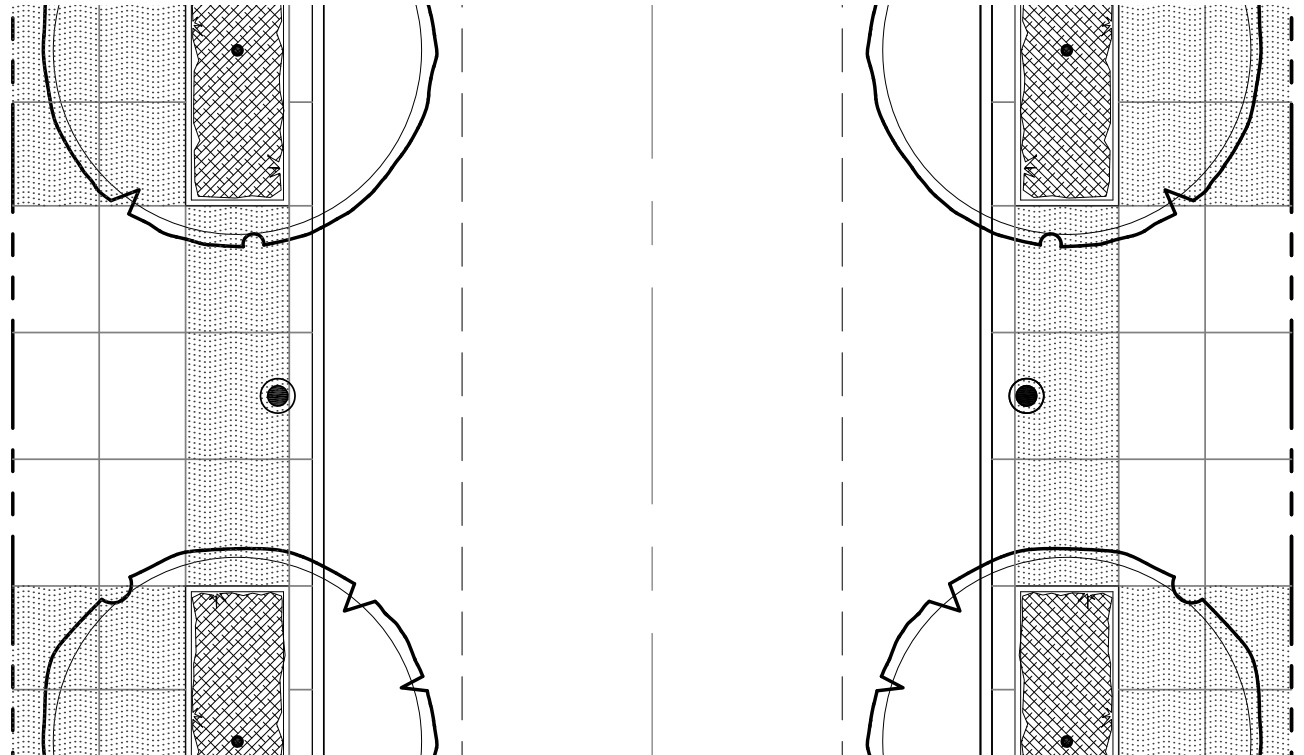


FIGURE 3.6 Street Type A Plan

TABLE 3.1 Street Type A Properties	
Dimensions and Zones	
Right of Way Width	74 ft
Cartway Width	38 ft
Travel Lanes	(2) 11 ft
Parking Lanes	(2) 8 ft
Sidewalk Width	10 ft
Planter Width	6 ft
Intersection and Safety	
Crosswalks	yes
Curb Type	raised
Curb Radii	20 ft
Curb Bump-outs	no
Infrastructure	
Drainage Type	conventional
Alternative Modes	
Bicycle	in-lane
Transit Service	no



Sec. 3.4 Street Type B

Street Type B is one of several street types that are designed to serve a mix of uses. More information about this landscape treatment is found in the Open Space and Landscape Standards section.

This will be more of an urban street type and will feature street trees at a regular intervals as required by City Code. Parallel parking will serve as short-term and visitor parking.

Refer to Section 5.5 for material types within the ROW.

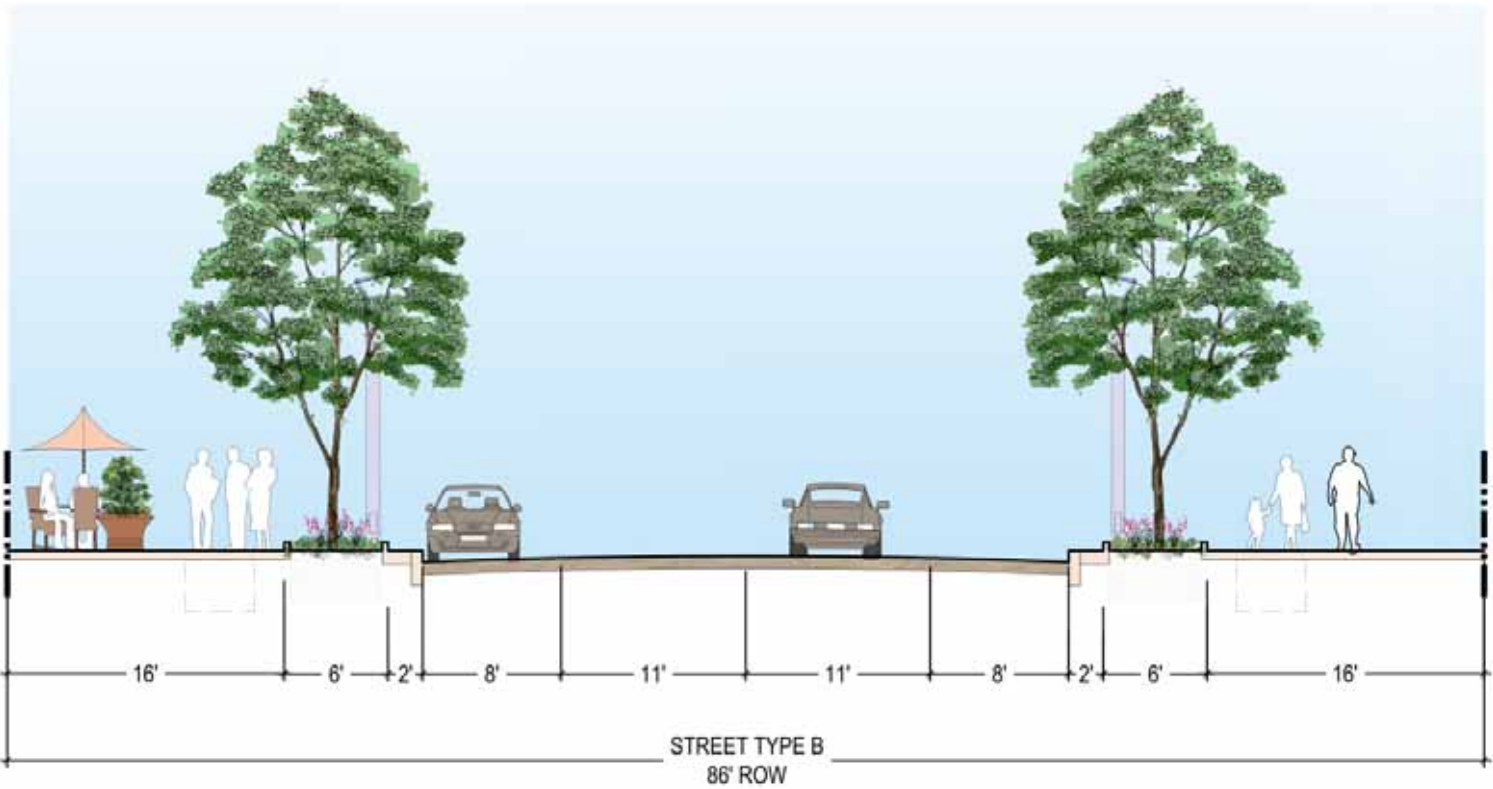


FIGURE 3.7 Street Type B Section



FIGURE 3.8 Street Type B Location Diagram

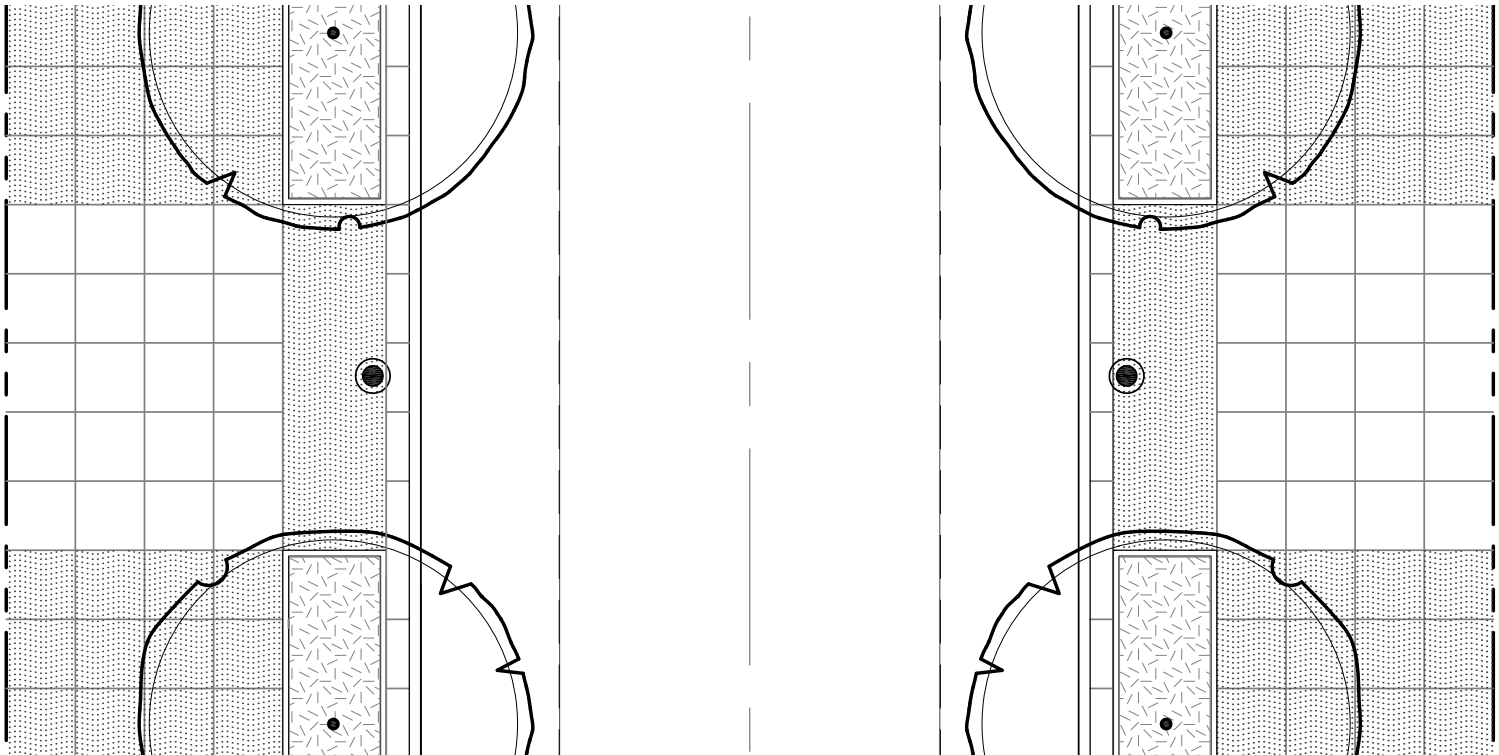


FIGURE 3.9 Street Type B Plan

TABLE 3.2 Street Type B Properties	
Dimensions and Zones	
Right of Way Width	86 ft
Cartway Width	38 ft
Travel Lanes	(2) 11 ft
Parking Lanes	(2) 8 ft
Sidewalk Width	16 ft
Planter Width	6 ft
Intersection and Safety	
Crosswalks	yes
Curb Type	raised
Curb Radii	20 ft
Curb Bump-outs	yes
Infrastructure	
Drainage Type	sustainable
Alternative Modes	
Bicycle	in-lane
Transit Service	no

### Sec. 3.5 Street Type C

Street Type C is also designed to serve a mix of uses. This typology is intended for the primary shopping streets. Sidewalks are sufficient to accommodate commercial activity while still providing an appealing residential environment. More information about this landscape treatment is found in the Open Space and Landscape Standards section.

This street type will also feature street trees to ensure shading a comfortable pedestrian environment as required by City Code. Parallel parking will serve as short term and visitor parking.

Refer to Section 5.5 for material types within the ROW.

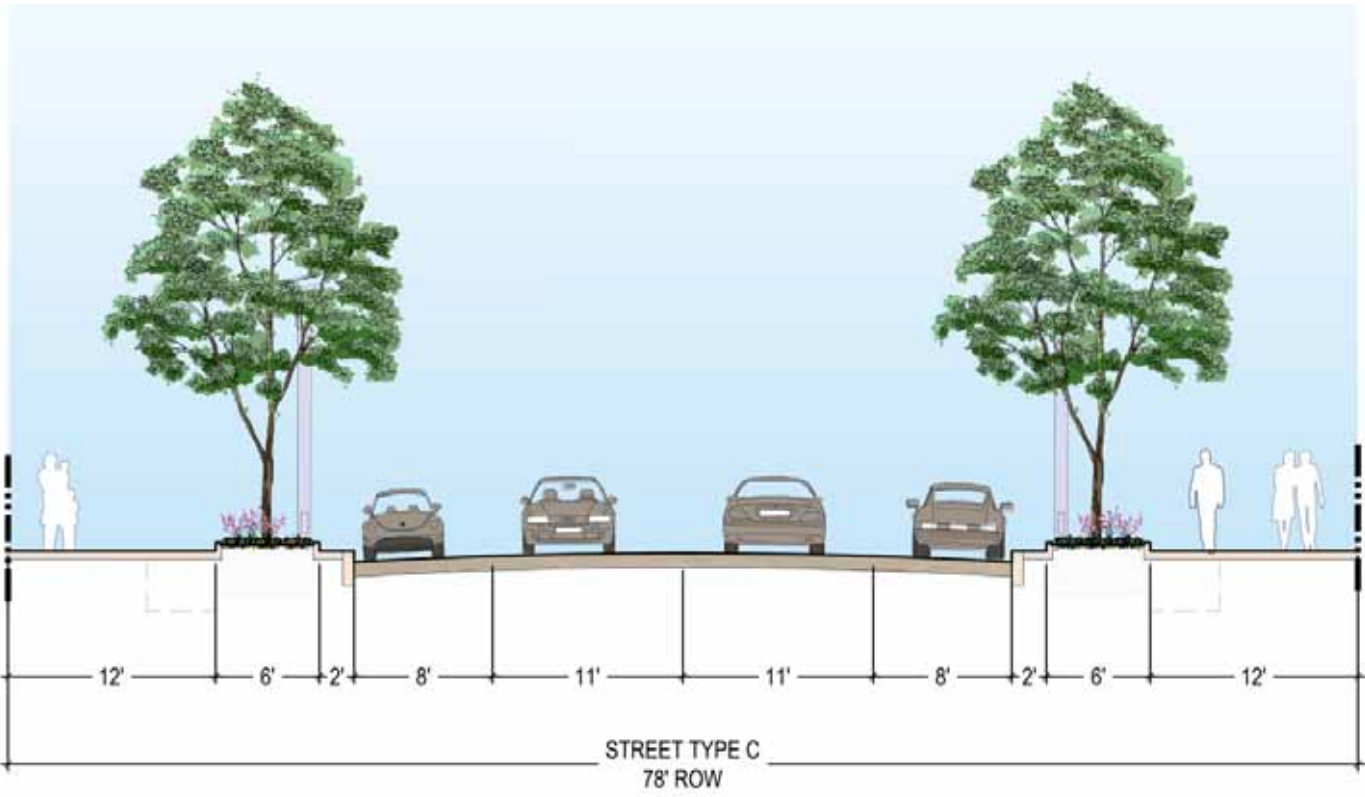


FIGURE 3.10 Street Type C Section



FIGURE 3.11 Street Type C Location Diagram

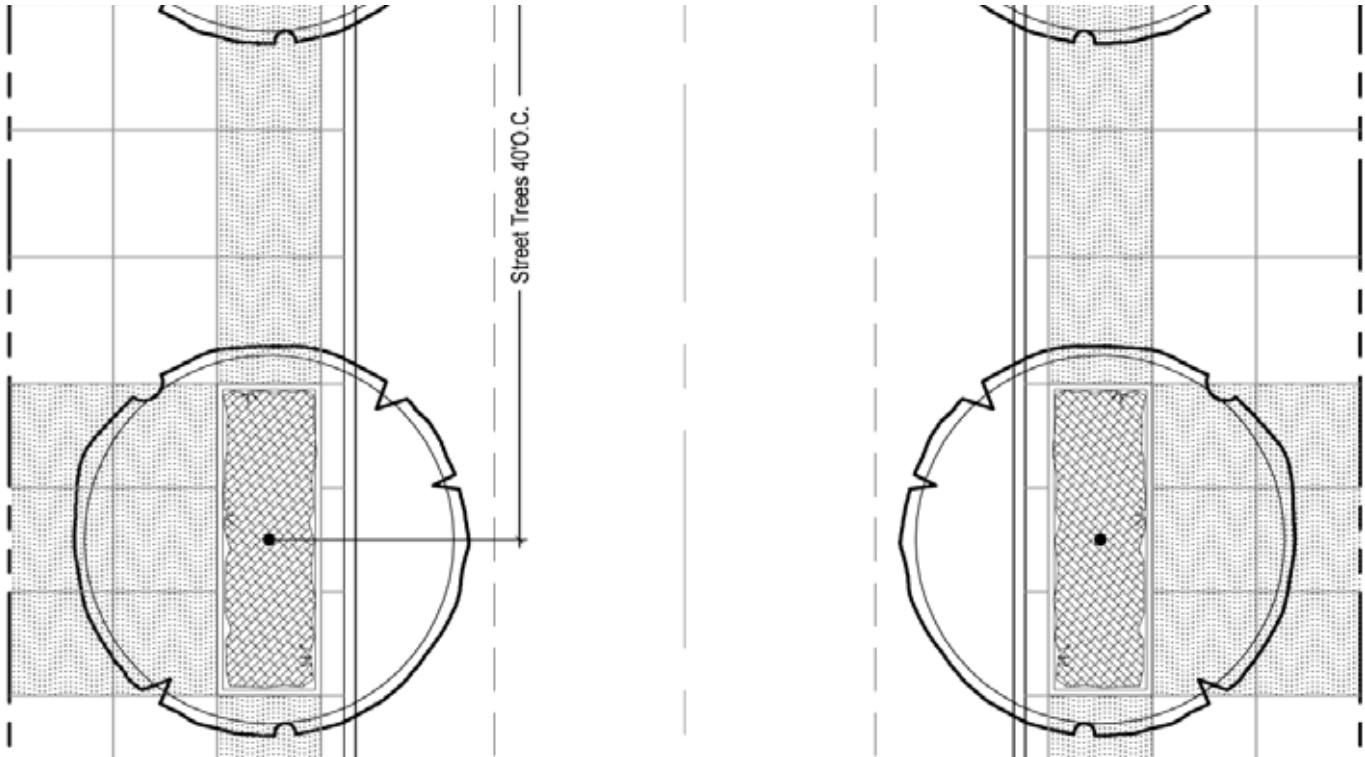


FIGURE 3.12 Street Type C Plan

TABLE 3.3 Street Type C Properties	
Dimensions and Zones	
Right of Way Width	78 ft
Cartway Width	38 ft
Travel Lanes	(2) 11 ft
Parking Lanes	(2) 8 ft
Sidewalk Width	12 ft
Planter Width	6 ft
Intersection and Safety	
Crosswalks	yes
Curb Type	raised
Curb Radii	20 ft
Curb Bump-outs	yes
Infrastructure	
Drainage Type	conventional
Alternative Modes	
Bicycle	in-lane
Transit Service	no



Sec. 3.6 Street Type D

Street Type D is designed as a flexible parking /travel lane, and implements flush curbs and bollards at the curb line. This design creates a more pedestrian-friendly environment within the street ROW so that during festivals or events in the Urban Open Space the street can be closed and activity can spill out into the street unimpeded.

Refer to Section 5.5 for material types within the ROW.

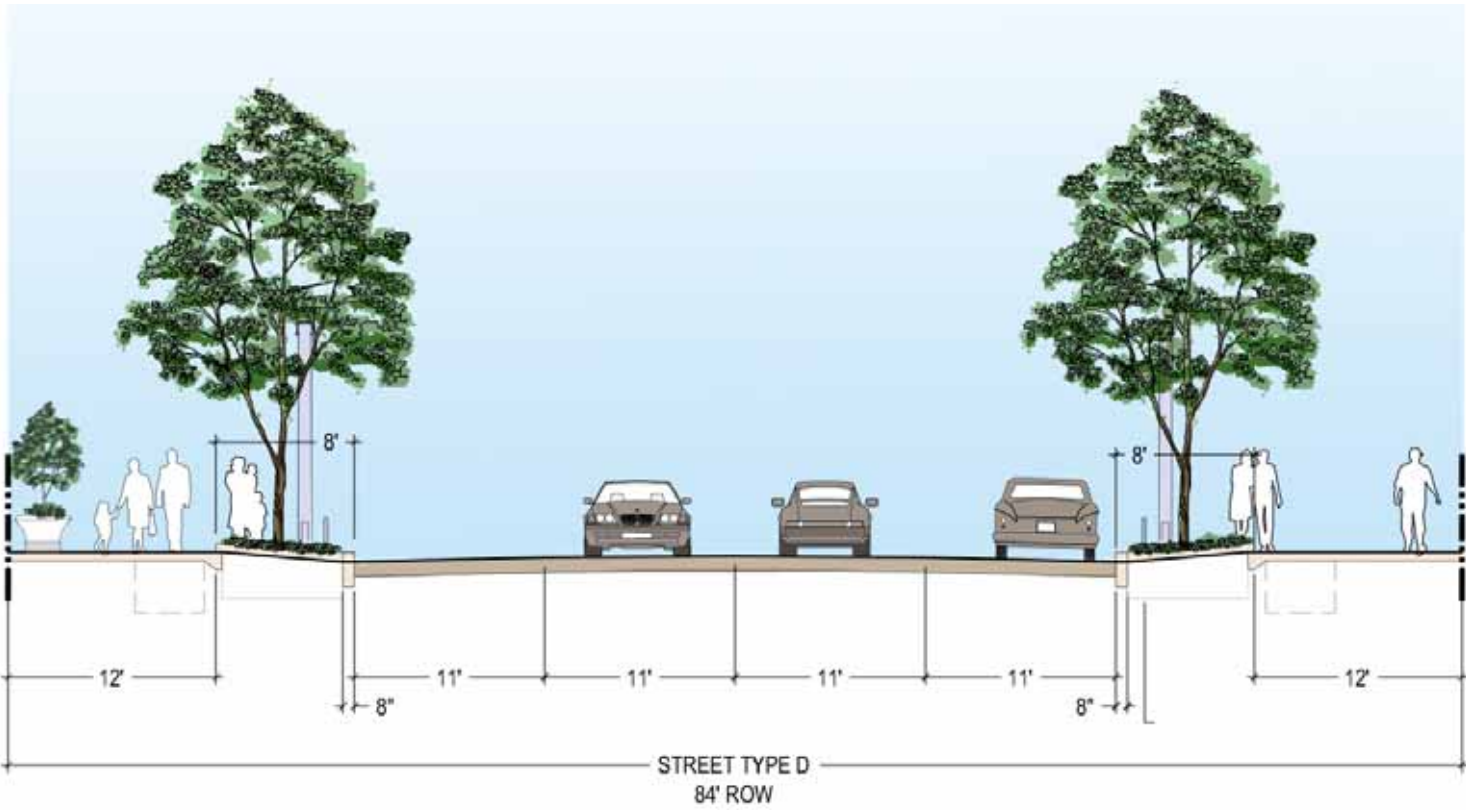


FIGURE 3.13 Street Type D Section



FIGURE 3.14 Street Type D Location Diagram

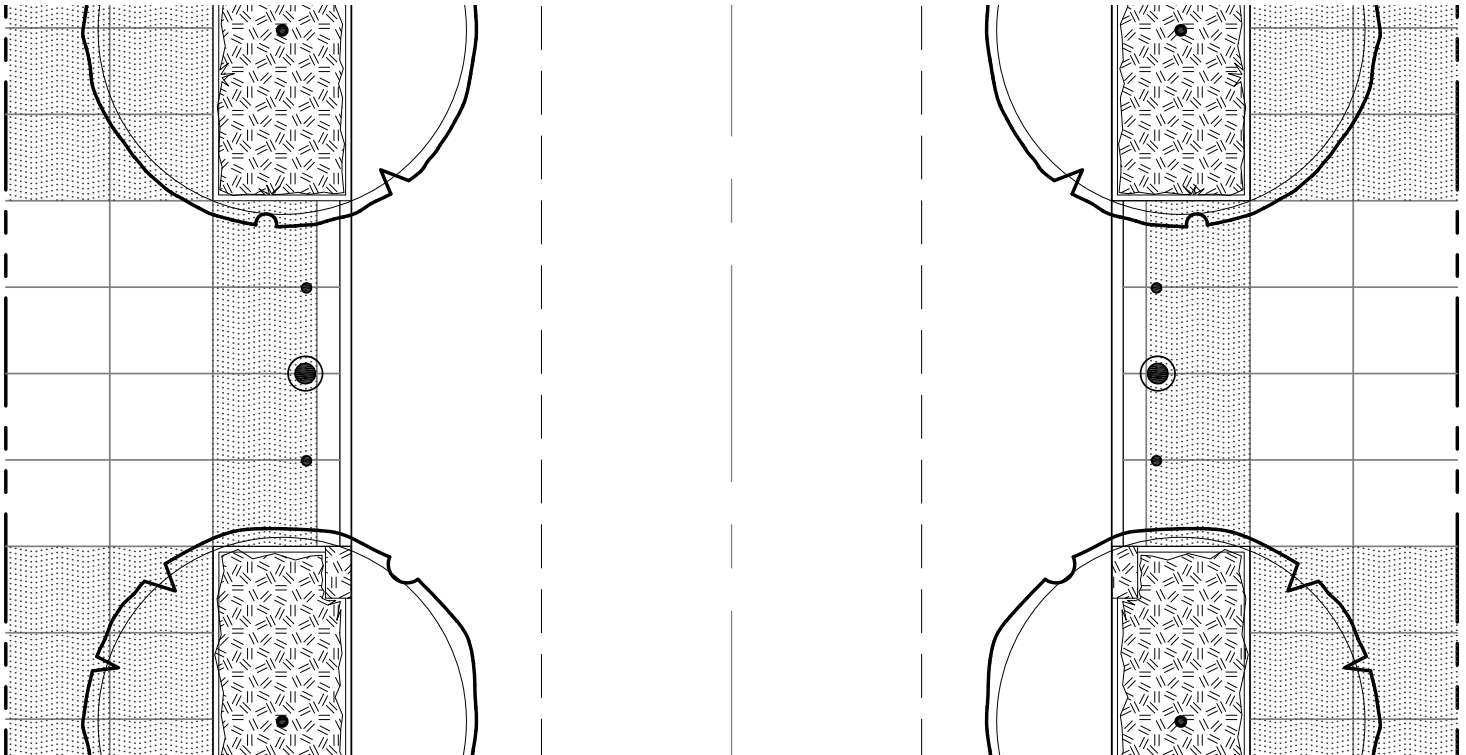


FIGURE 3.15 Street Type D Plan

TABLE 3.4 Street Type D Properties	
Dimensions and Zones	
Right of Way Width	84 ft
Cartway Width	44 ft
Travel Lanes	(2) 11 ft
Parking/Travel Lanes	(2) 11 ft
Sidewalk Width	12 ft
Planter Width	8 ft
Intersection and Safety	
Crosswalks	yes
Curb Type	flush/raised
Curb Radii	20 ft
Curb Bump-outs	no
Infrastructure	
Drainage Type	sustainable
Alternative Modes	
Bicycle	in-lane
Transit Service	yes

Sec. 3.7 Street Type E

Street Type E is designed to have one dedicated travel lane in each direction with a second lane that can become flexible between parallel parking during normal use and travel lanes during highly trafficked events. This extra width in the cartway will also make this street type a preferred route for buses.

Refer to Section 5.5 for material types within the ROW.

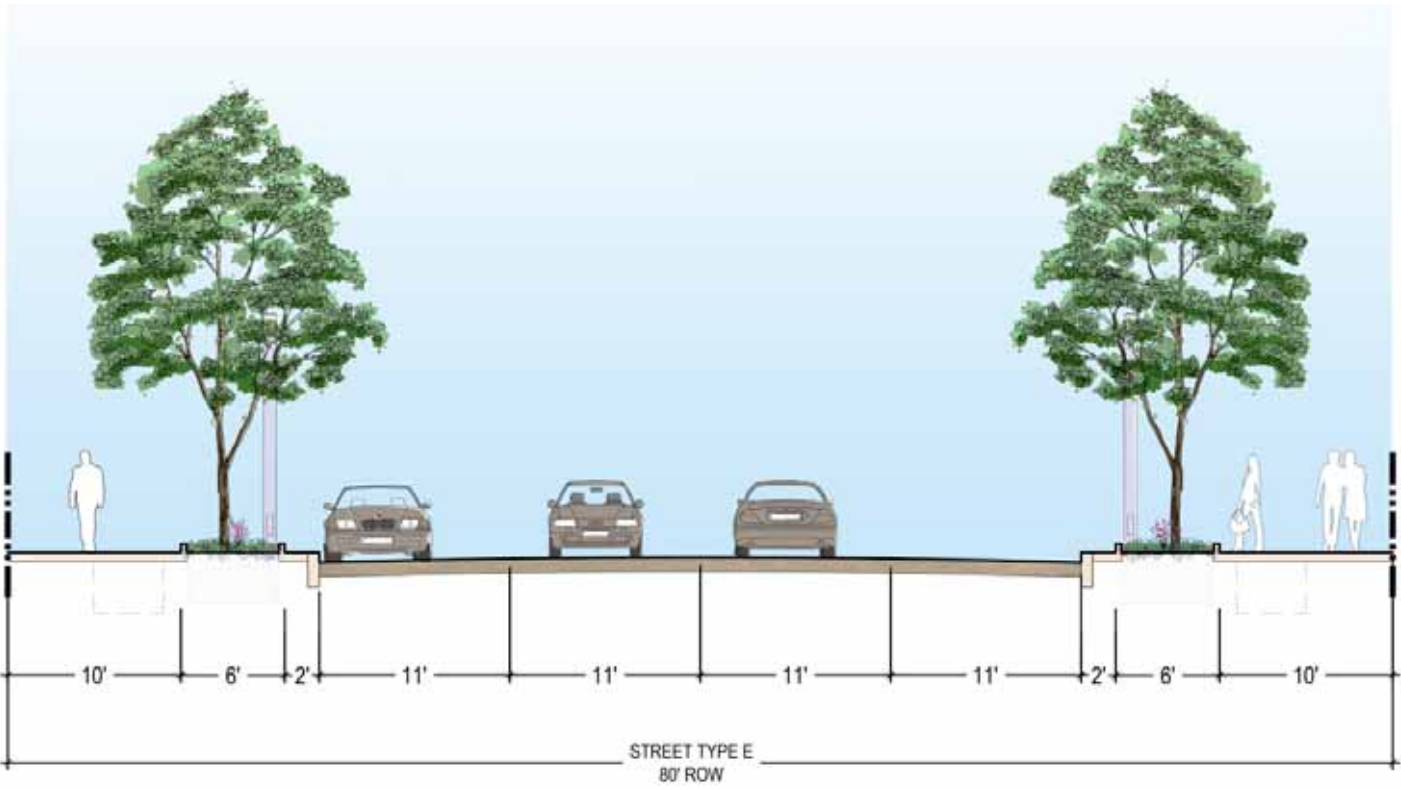


FIGURE 3.16 Street Type E Section



FIGURE 3.17 Street Type E Location Diagram

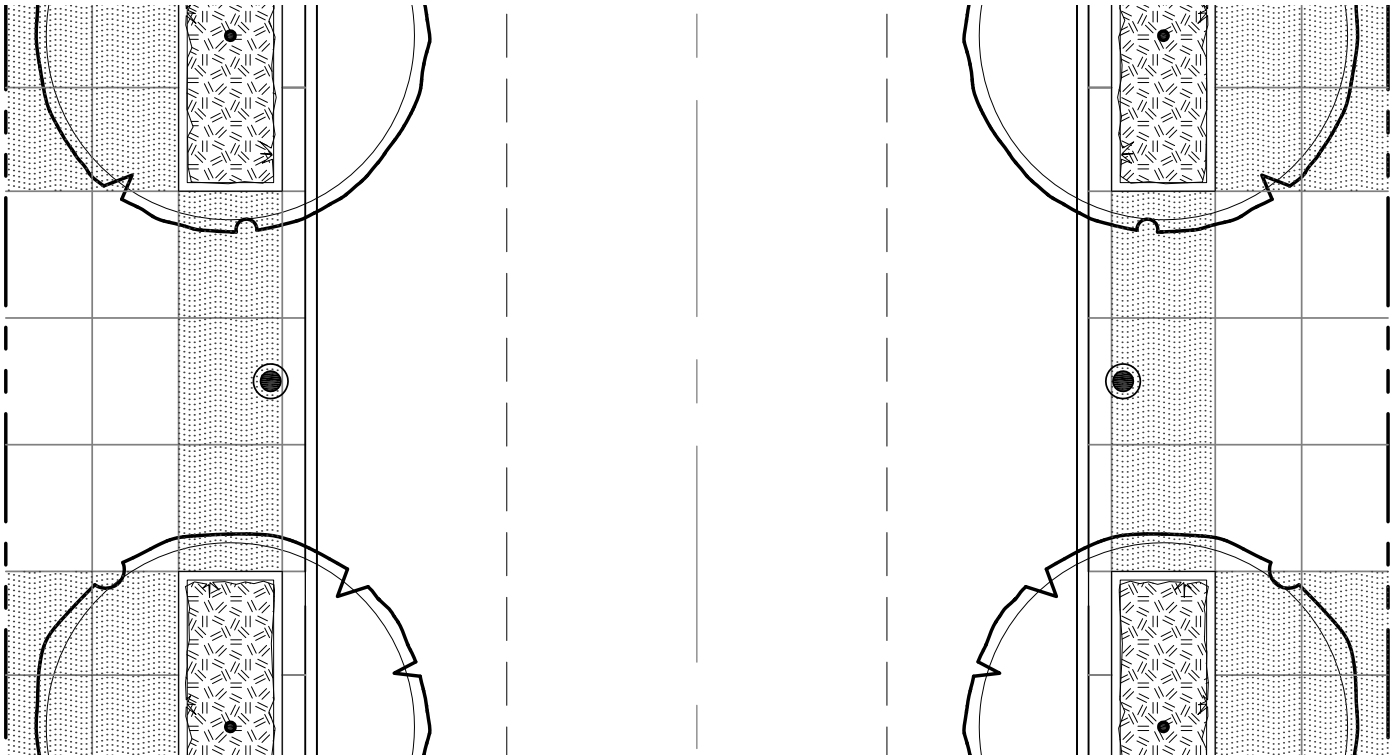


FIGURE 3.18 Street Type E Plan

TABLE 3.5 Street Type E Properties	
Dimensions and Zones	
Right of Way Width	80 ft
Cartway Width	44 ft
Travel Lanes	(2) 11 ft
Parking/Travel Lanes	(2) 11 ft
Sidewalk Width	10 ft
Planter Width	6 ft
Intersection and Safety	
Crosswalks	yes
Curb Type	raised
Curb Radii	20 ft
Curb Bump-outs	no
Infrastructure	
Drainage Type	sustainable
Alternative Modes	
Bicycle	in-lane
Transit Service	yes



Sec. 3.8 Street Type F

Street Type F is similar to Street Type E but is designed with narrower side-walks which is appropriate for anticipated residential uses on this block. All sidewalk widths are 6 feet except for the western sidewalk along Block D where the width is 8 feet. This street type includes one dedicated travel lane in each direction with a second lane that can ‘flex’ between parallel parking during normal use and travel lanes during peak traffic hours.

Refer to Section 5.5 for material types within the ROW.

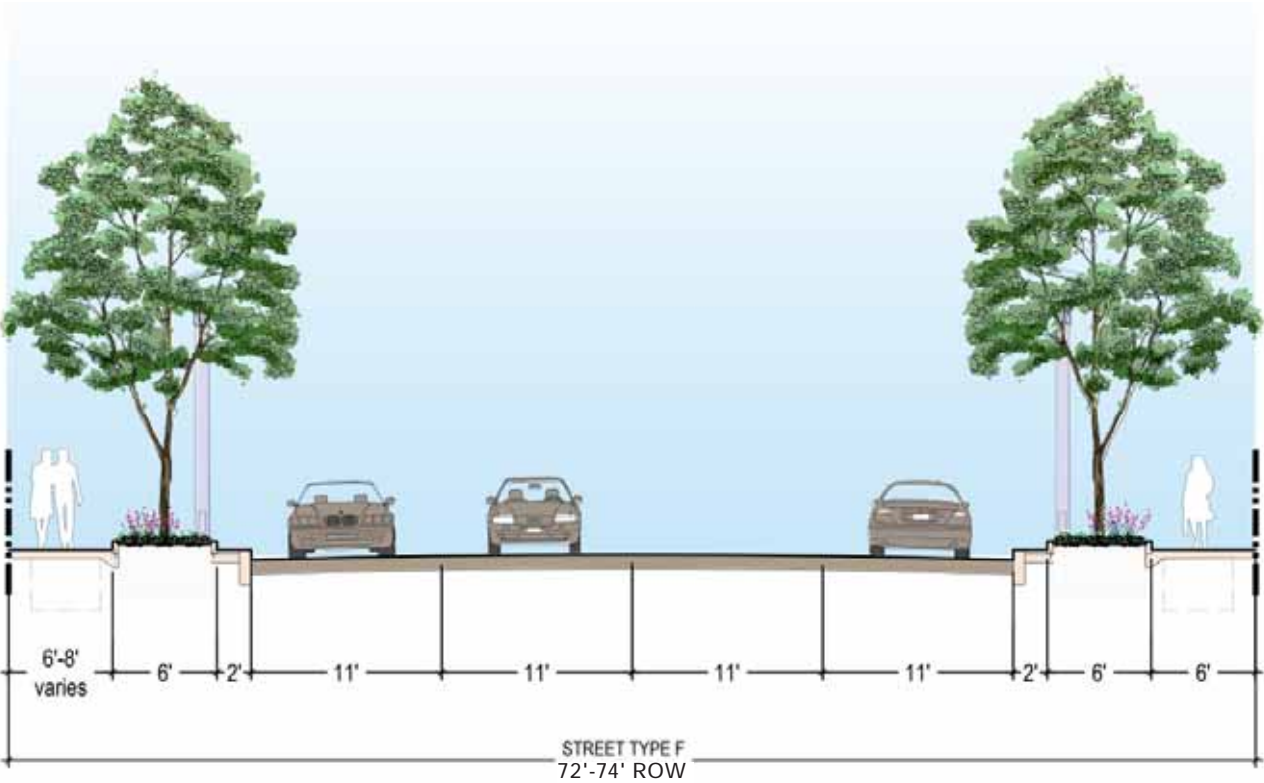


FIGURE 3.19 Street Type F Section



FIGURE 3.20 Street Type F Location Diagram

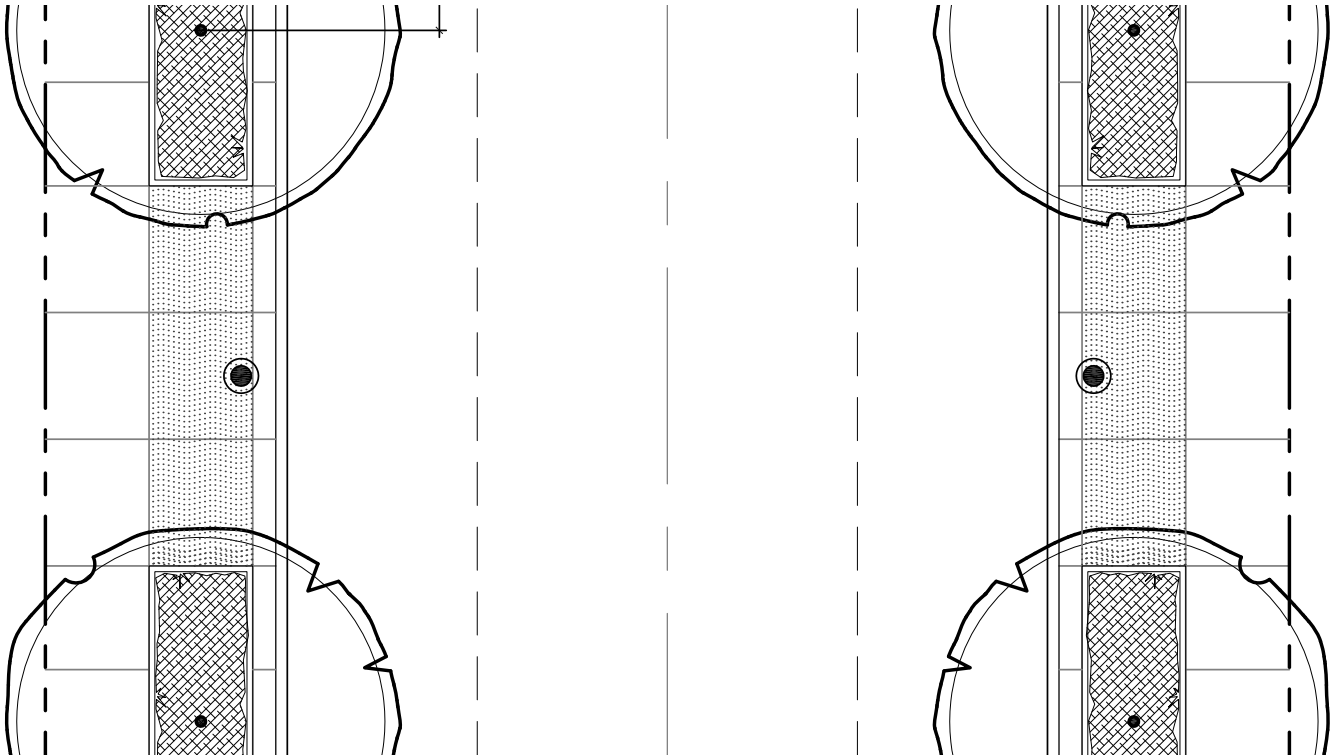


FIGURE 3.21 Street Type F Plan

TABLE 3.6 Street Type F Properties	
Dimensions and Zones	
Right of Way Width	72ft/74 ft
Cartway Width	44 ft
Travel Lanes	(2) 11 ft
Parking/Travel Lanes	(2) 11 ft
Sidewalk Width	6 ft
Planter Width	6 ft
Intersection and Safety	
Crosswalks	yes
Curb Type	raised
Curb Radii	20 ft
Curb Bump-outs	no
Infrastructure	
Drainage Type	conventional, sustainable
Alternative Modes	
Bicycle	in-lane
Transit Service	no

Sec. 3.9 Street Type G

Street Type G is the smallest street type and is intended to have primarily residential uses fronting it, although commercial uses can exist here. Large street trees will shade sidewalks and buildings will be setback with a front yard or planting area. Parallel parking will serve as short term and visitor parking. Refer to Section 5.5 for material types within the ROW.

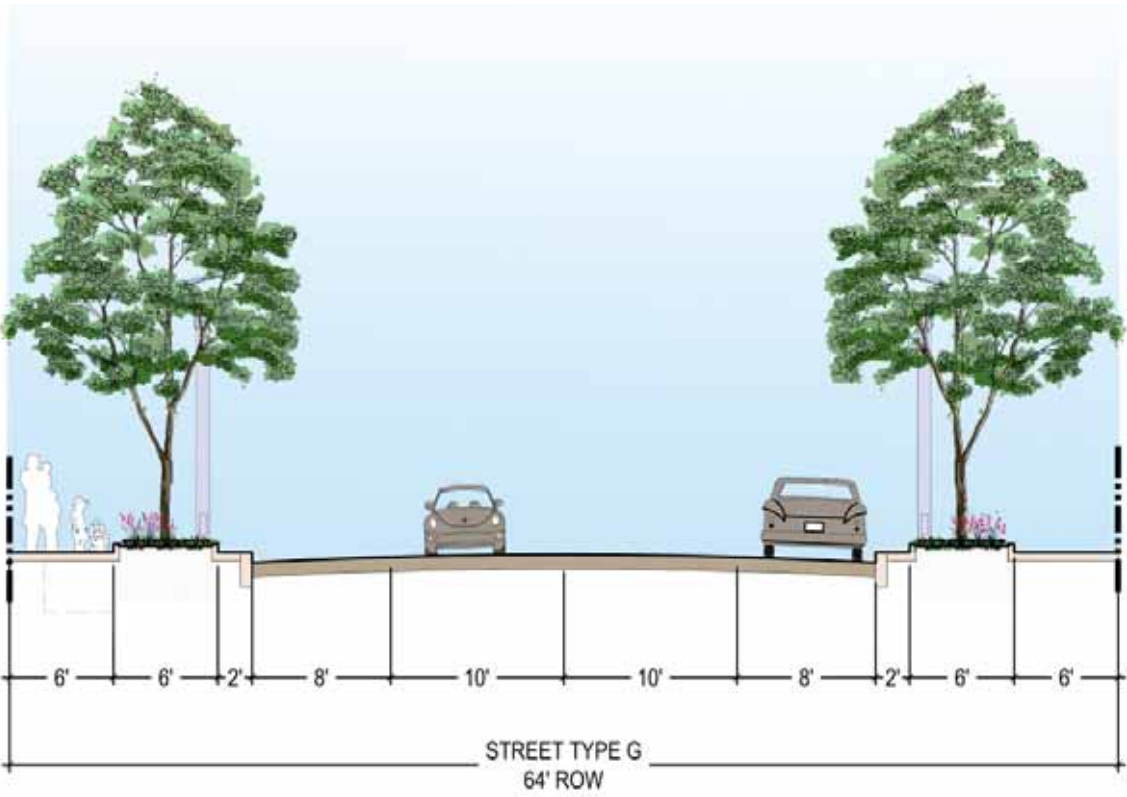


FIGURE 3.22 Street Type G Section



FIGURE 3.23 Street Type G Location Diagram

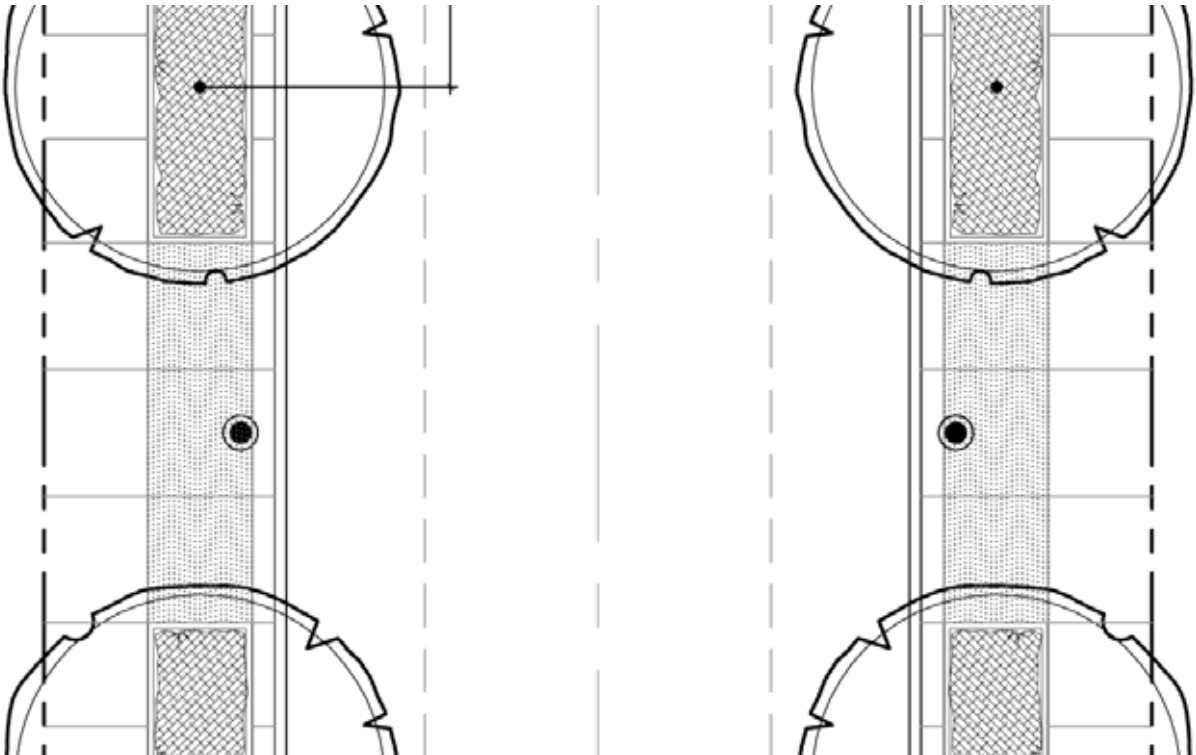


FIGURE 3.24 Street Type G Plan

TABLE 3.7 Street Type G Properties	
Dimensions and Zones	
Right of Way Width	64 ft
Cartway Width	38 ft
Travel Lanes	(2) 10 ft
Parking Lanes	(2) 8 ft
Sidewalk Width	6 ft
Planter Width	6 ft
Intersection and Safety	
Crosswalks	yes
Curb Type	raised
Curb Radii	20 ft
Curb Bump-outs	no
Infrastructure	
Drainage Type	sustainable
Alternative Modes	
Bicycle	in-lane
Transit Service	no



Sec. 3.10 Sidewalk Types A, B, and C

The sidewalks along the perimeter streets shall be designed in such a way to ensure pedestrian connectivity between the Lower Hill Site Redevelopment and adjacent neighborhoods. Each sidewalk is designed to handle the anticipated pedestrian traffic in a particular area. Type A is a 6-foot sidewalk for blocks with residential uses. Type B is a 10-foot sidewalk for moderate pedestrian traffic and is applied to blocks where a mix of uses is anticipated. Lastly, Type C provides a generous 12-foot sidewalk to specifically accommodate the high pedestrian traffic volumes from Downtown to CONSOL Energy Center.

Refer to Section 5.5 for material types within the ROW.

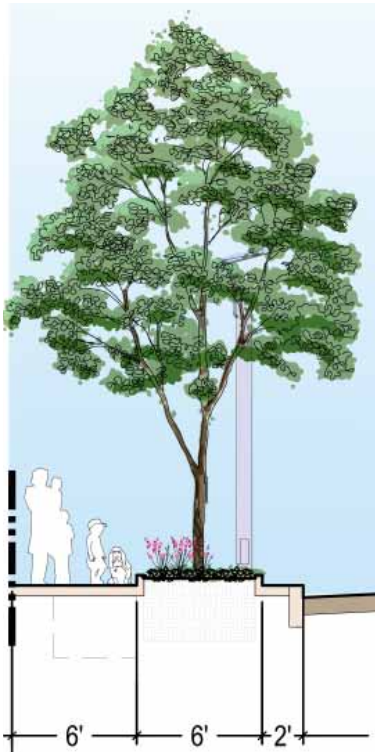


FIGURE 3.26 Sidewalk Type A Section

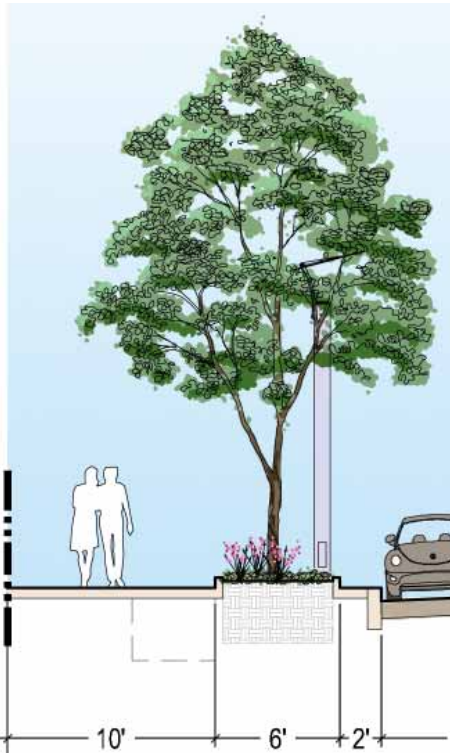


FIGURE 3.27 Sidewalk Type B Section



FIGURE 3.28 Sidewalk Type C Section



FIGURE 3.25 Sidewalk A, B, and C Location Diagram



Sec. 3.11 Private Alley

A Private Alley is a driveway or service lane that occurs on any private development block. Private Alleys can not only serve vehicles but should also be key contributors to the stormwater strategy for each block and provide important pedestrian connections through blocks where possible. These alleys are to be a means to traverse steep blocks, and in some cases, may also serve interior block retail and restaurant functions.

The minimum ROW for a Private Alley is 30 feet, and maximum is 40 feet. Building setbacks for Private Alleys are zero to six feet.

Location of private alleys may be anywhere within a private development block but is restricted by curb cut allowances and locations as indicated in the street and connections regulating plan. Blocks A, B, and C are required to provide private alleys to support pedestrian connectivity but their actual alignment is flexible. These particular alleys may be subject to an easement for public use, with specific usage regulations as needed.

Due to topography, it may not be possible for private alleys to be constructed as a continuous driveway or sloped pedestrian connection. In these cases, every effort should be made to ensure continuity in pedestrian route through stairways, switchback ramps, elevators or other solutions.

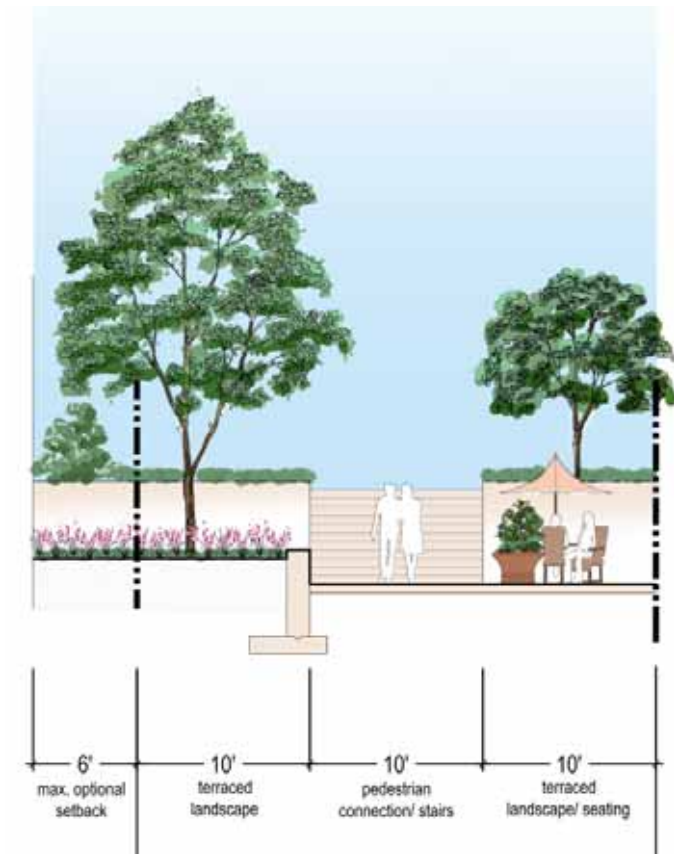


FIGURE 3.30 Private Alley: Pedestrian Path and Emergency Access

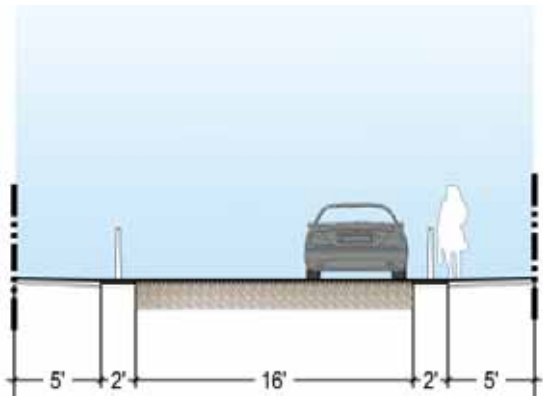


FIGURE 3.31 Private Alley: Two-Way with Bollards and No Curb

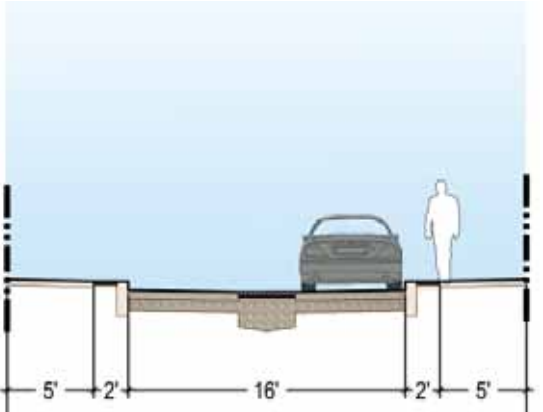


FIGURE 3.32 Private Alley: Two-Way with Curb



# Section 4. Building Types

- Sec. 4.1 Introduction 39
- Sec. 4.2 General Regulations 40
- Sec. 4.3 Building Materials and Systems 41
- Sec. 4.4 Building Elements 42
- Sec. 4.5 Attached House 43
- Sec. 4.6 Type II Building 44
- Sec. 4.7 Tower Building 45

## SUSTAINABILITY GOALS



- » Design and orient buildings for optimum use of passive solar strategies prior to active solar strategies
- » Design and construct energy efficient, high performance envelopes for energy use optimization
- » Design and construct building automation and control systems to intelligently reduce energy consumption
- » Design and construct vegetated roofs and/or reflective/cool roofs, specifying high albedo materials to reduce cooling system costs and reduce the urban heat island effect
- » Specify energy efficient light fixtures with long life spans to reduce energy consumption and maintenance cost and waste
- » Specify locally manufactured and extracted materials with recycled or reclaimed content
- » Specify solar panels or other high SRI roof materials
- » Reduce construction waste by establishing an on-site construction waste recycling program. Promote reuse for temporary materials such as formwork, bracing, scaffolding, sidewalk protection, guard rails, etc. through the construction process.
- » Commission buildings in order to verify proper operations and compliance with performance goals

## APPLICABLE LEED-ND POINTS (2009 Standards)

- GIB Pre 1 — Certified Green Building
- GIB Pre 2 — Minimum Building Energy Efficiency
- GIB Pre 3 — Minimum Building Water Efficiency
- GIB Credit 1 — Certified Green buildings
- GIB Credit 2 — Building Energy Efficiency
- GIB Credit 3 — Building Water Efficiency
- GIB Credit 4 — Water-Efficient Landscaping
- GIB Credit 8 — Stormwater Management
- GIB Credit 9 — Heat Island Reduction: Roof Measures
- GIB Credit 16 — Solid Waste Management



Sec. 4.1 Introduction

There are three Building Types that guide the design of buildings in the Lower Hill Site Redevelopment. Allowable locations for particular Building Types are dictated by the Regulating Plans, Sub District Diagram, and Frontage Types.

This section provides regulations and design guidance based on the typology that is being built. One should refer to the appropriate page based on the building type being proposed. The building types are defined as follows:

- » **Attached House:** This type ranges from 18- to 30-feet wide and is to be arranged in rows of four to eight units. These are typically two to three stories tall, and are most commonly residential use although a live-work condition may apply. This building type would effectively transition the scale of the Hill District neighborhoods in the site and is intended for Sub District 1.
- » **Type II:** These buildings range from 3 to 10 stories. A range of uses can work in this type and a mixed-use program is encouraged. On the smaller end of the scale this might take the form of a neighborhood apartment building with a compact footprint, making it ideal for handling steep topography. The larger end of the scale might be a large floor plate office building or institutional user that could have other commercial uses on the ground floor. This building type is intended to be built in Sub District 2.
- » **Type III (Tower Building):** The regulating plans allow for tall buildings in particular locations within Sub District 2. These are ideal corporate office towers and residential condos or apartments but can also be mixed-use buildings. The regulations provided here apply for towers above twelve stories.



FIGURE 4.1 Example of an Attached House displaying a mix of facade designs and materials.



FIGURE 4.2 Example of a Mid-Rise Building containing a mixed-use program.



FIGURE 4.3 Example of a Tower Building designed for residential condos.

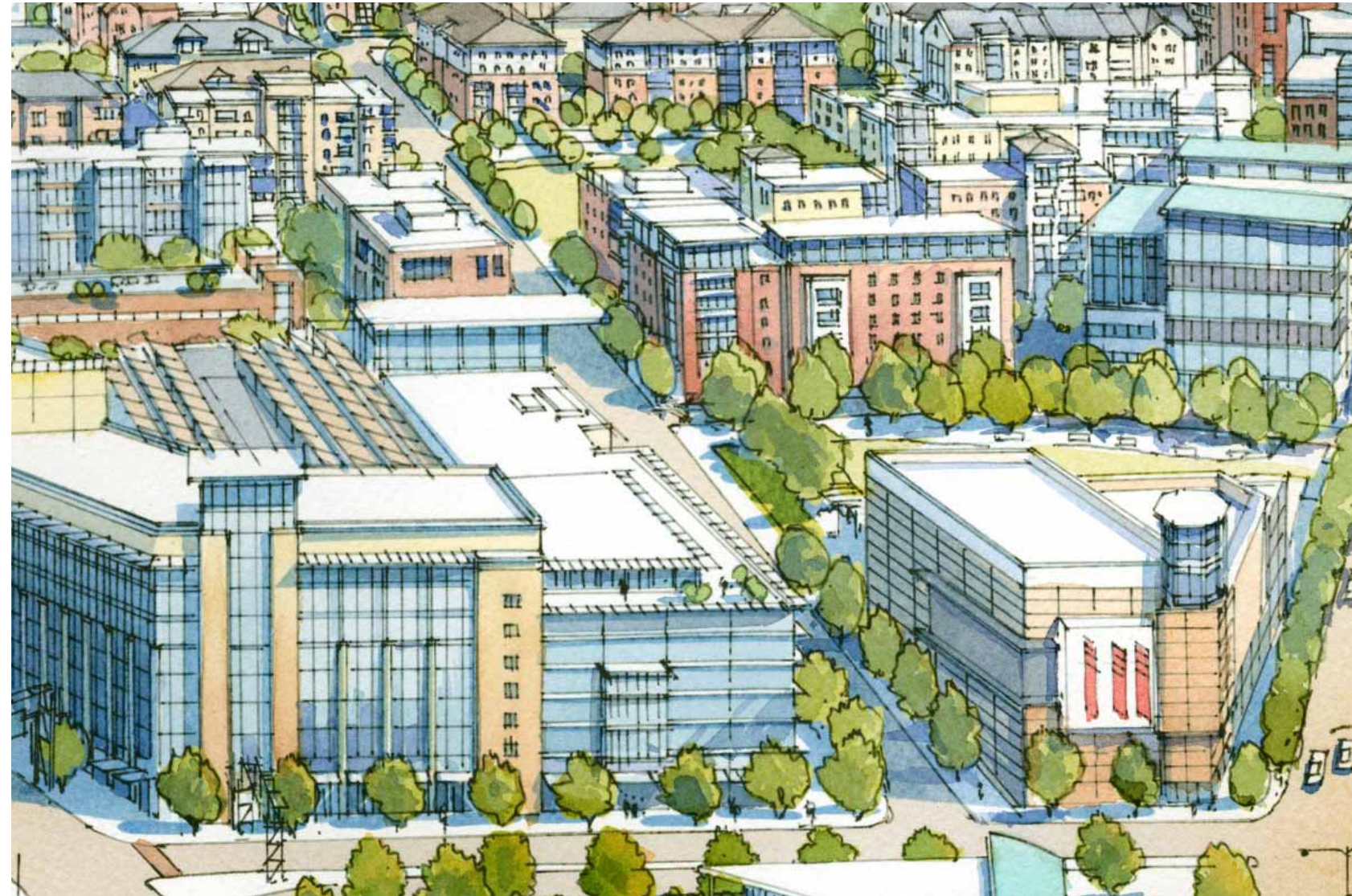


## Sec. 4.2 General Regulations

The following information and regulations apply to each Building Type and should be carefully considering during the design process of any building.

### 4.2.1 Goals and Regulations

- » All buildings shall be designed as urban buildings that face the street, respect frontage requirements, and meet the standards set forth herein to ensure a high quality built environment.
- » All buildings shall conform to local and national building codes as well as any applicable accessibility (ADA) requirements.
- » All buildings should strive to be responsible, sustainable buildings. LEED-ND certification at the then current version is a recommendation, but at the very least, each building should perform to the degree that it contributes to the goals of the district as a whole (ie: LEED-ND minimum requirements). Sustainable buildings should include sustainable materials, energy efficient systems, minimize heat island effect, mitigate the effects of stormwater and promote healthy living and working environments.
- » Two LEED-ND prerequisites pertaining to the design of buildings are highlighted in the box to the right. These are of utmost importance and the responsibility of private developers in order for the district as a whole to achieve LEED-ND certification.
- » All buildings should include occupiable roof decks, terraces, and facades (balconies, step backs) to promote activity at all levels. The topography of the site allows for unique views to Downtown and the surrounding neighborhoods, therefore these elements will permit occupants to take full advantage of location and climate.
- » Building Height shall be defined as presented in the Pittsburgh Zoning Code, as follows:
  - › Building Height means the vertical distance between Average Finished Grade along the wall facing the front street yard and:
    - (a) the highest point of the coping of a flat roof;
    - (b) the deck line of a mansard roof; or
    - (c) the average height level between the eaves and ridge line of a gable, hip or gambrel roof.
  - › See following sections for further information: 925.07.A – Measured in Feet; 925.07.B – Measured in Stories; 925.07.C – Exemptions from Height Standards
- » Art is encouraged to be an integral component of buildings and Urban Open Space.



#### LEED-ND PREREQUISITES

- » Achieve 10% energy savings over an ASHRAE 2007 baseline
- » Achieve indoor water use savings to be 20% over an Energy Policy Act of 2005 baseline
- » Note: as standards evolve, projects should meet the most current standards at the time of certification





## Sec. 4.3 Building Materials and Systems

Building material and system selection is a key component in creating a sustainable community that achieves LEED-ND certification. In selecting materials, priority should be given to materials that have the following attributes:

SUSTAINABLE BUILDING MATERIALS & SYSTEMS

Building Envelope

» Use highly efficient wall and roof materials to increase insulation values and reduce heating and cooling costs. Use impermeable insulation to better seal the building envelope.

» Use reflective roof materials to reduce cooling loads and heat island effects.

» Use proper building seals in the building envelop to reduce heating and cooling costs caused by air infiltration.

» Encourage Building Envelope Commissioning (BECx) in order to verify building performance and neighborhood energy performance goals

Daylighting

» Use insulating windows to conserve electricity and reduce heating and cooling costs.

» Use insulated skylights to increase daylighting and to conserve electricity and reduce heating and cooling costs.

Illumination

» Use energy efficient light fixtures with long lifetimes to reduce energy consumption, maintenance cost, and waste.

» Use of lighting control systems to manage lighting levels in occupied spaces for optimum energy performance and occupant comfort

Intelligent Building

» Use building automation and control systems to intelligently reduce energy consumption.

» Use circuit protection to enhance the lifetime of electrical components.

» Use intelligent electrical distribution equipment to manage energy usage and reduce electricity consumption.

» Use electric vehicle charging stations.

» Use power quality equipment to enhance the lifetime of electrical components and reduce energy consumption.

» Use highly efficient transformers to reduce energy consumption.

HVAC

» Adapt HVAC systems to reduce energy consumption and extend lifetime of HVAC motors by using variable frequency drives.

» Encourage Building Envelope Commissioning (BECx) in order to verify building performance and neighborhood energy performance goals.

» Select environmentally friendly refrigerants.

Indoor Environment Quality

» Use durable high performance coatings, adhesives and sealants with low VOCs.

» Implementation of IAQ Management Plans during construction to encourage clean construction practices.

- » composed of recycled or reclaimed content
- » locally manufactured
- » high performance

The following materials list is intended to regulate material selection from aesthetic and quality aspects. Compliance is required and will be reviewed as part of the planning review process. Any materials not listed below shall be evaluated by both the property owner and applicable City review bodies for quality and appropriateness. These unlisted materials shall be either approved or prohibited on a case by case basis.

- » Cladding
  - » Permitted: Brick, stone, cast stone, precast concrete, terracotta, fiber cement, painted wood, metal, composite or polycarbonate panel systems, aluminum or fiberglass frame curtain wall and glass or polycarbonate glazing, vegetated cladding systems, metal panels
  - » Prohibited: Vinyl siding, simulated stone veneer, EIFS
- » Roofing
  - » Permitted: Flat roofing systems, standing seam roofing, corrugated metal, slate (including manufactured slate products), architectural asphalt shingles, cast stone or precast parapets, skylights, polycarbonate and glass atrium systems, vegetated roofing systems, solar panel systems
  - » Prohibited: Asphalt shingles
- » Window Walls & Commercial Streetfronts
  - » Permitted: Aluminum framing system with glass, spandrel glass with aluminum or composite spandrel panels
  - » Prohibited: Vinyl siding & trim
- » Windows
  - » Permitted Frames: Wood, Cellular PVC, Aluminum and fiberglass window systems
  - » Permitted Glazing: Clear and lightly tinted glass and polycarbonate, spandrel glass
  - » Prohibited: Vinyl frames, mirrored glass
- » Light Shelves and Sun Shades
  - » Permitted: Prefinished aluminum (solid or louvered), cast stone, concrete
  - » Prohibited: None

- » Trim
  - » Permitted: Stone, cast stone, and stone string courses, lintels and sills; fiber cement, wood, composite millwork
  - » Prohibited: Vinyl, EIFS
- » Columns
  - » Permitted: Stone, cast stone, precast concrete, brick, glass fiber-reinforced cement, aluminum, steel, naturally finished outdoor hardwood, painted wood, fiberglass
  - » Prohibited: None
- » Balconies
  - » Permitted: Railings: steel, aluminum, wood, fiberglass, composite, glass and polycarbonate railing systems; Balcony floors: stone, cast stone, concrete, naturally finished outdoor hardwood, painted wood, composite faced
  - » Prohibited: Exposed pressure treated wood
- » Soffits
  - » Permitted: fiber cement, prefinished aluminum, painted wood, or smooth surface composition board
  - » Prohibited: Vinyl, exposed pressure treated wood
- » Canopies
  - » Permitted: Metal, glass and polycarbonate, painted wood or composite (Note that fabric Awnings are distinguished from Canopies)
  - » Prohibited: None





## Sec. 4.4 Building Elements

The Building Elements outlined here are important pieces of every building and certain aspects of these are regulated so as to ensure buildings are designed and operate in a responsible manner.

### 4.4.1 Lobby Entrances

Lobbies serve as the primary entrance into a commercial or residential building. To ensure their effectiveness, the following minimum criteria shall be met:

- A. Lobby entrances shall be articulated such that how and where to enter the building is clear and unobstructed from the street.
- B. Commercial lobbies shall provide a minimum of 60% transparency into the internal lobby space. Transom and clerestory windows count toward the minimum transparency.
- C. Residential lobbies shall provide a minimum of 40% transparency into the internal lobby space to ensure visibility and safety. Transom and clerestory windows count toward the minimum transparency.
- D. Lobbies shall be appropriately accessible for persons with disabilities from locations in the rear, nearest to the reserved accessible parking.
- E. Lobby entrances shall be well lit while not exceeding the lumen and cutoff standards set forth in Section 5.4.1 Building Lighting.
- F. Lobbies shall clearly show the address and name of the building consistent with the signage standards set forth in Pittsburgh zoning code title nine: Zoning Code, Article VI, Development Standard, Chapter 919: Signs.



FIGURE 4.4 Example of a clearly articulated entry with a canopy element and clear building signage

### 4.4.2 Mechanical and Other Building Systems

- A. Rooftop equipment shall not exceed a projecting height of more than 25% of the building type's permitted height or 20 feet, whichever is least. Rooftop equipment shall be setback from edge of roof or parapet by a minimum of 10 feet. Additional screening should be provided when active space is provided on rooftops of buildings in close proximity to each other. Screening should be an important consideration on buildings lining view corridors, and should be for both visibility and noise.
- B. The form of the roof or cornice shall hide mechanical equipment and roof penetrations, such as plumbing stacks and vents, from view from streets and sidewalks.
- C. Vents, grilles, and louvers required on building facades for mechanical systems shall be architecturally integrated into the facade design.
- D. Large ground-mounted mechanical equipment (such as electric transformer) is permitted but should not be visible from the street or Urban Open Space. This can be achieved by installing equipment within a parking garage or by screening it with a hedgerow or fence on all publicly exposed sides. Screening elements should be as tall as the equipment mass or six feet, whichever is greater. For commercial buildings, electrical transformers and generators must be located within the building or underground. Small mechanical equipment (such as water meters) need not comply to these regulations.

### 4.4.3 Penthouses and Towers

- A. Penthouses and towers provide rooftop access, view and entertainment venues, as well as visual markers within the city. Penthouses generally provide rooftop access and house building mechanical equipment. Towers can range from a raised parapet on part of a building's roofline to a fully accessible vertical element. If penthouses or towers are greater than 50% of the width or depth of a main body facing either a front- or side-street yard, the penthouse or tower shall be stepped back a minimum of 10 feet from the building's facade.

### 4.4.4 Commercial Streetfronts

Commercial Streetfronts are the traditional means of advertising goods, services, and enterprises along streets and public spaces. They can be applied to most building types to improve the performance of the commercial ventures within.

- A. Commercial Streetfronts are typically tall with a high percentage of glazing to allow for maximum visibility and opportunities for signage. The minimum requirement is 60% transparency.

- B. Commercial Streetfronts along the ground floor of a building shall be designed to permit maximum flexibility for subdividing commercial spaces.
- C. When at corners, entrances should locate at the building's corner to maximize commercial visibility from multiple directions.
- D. Commercial Streetfront entrances shall be clearly distinguished from those serving floors above.
- E. Commercial Streetfronts may be individualized as part of tenant fit out including, but not limited to signage, lighting, paint color, landscaping, window and door style, and detailing.
- F. Within the structural framework of the Commercial Streetfront, Commercial Streetfronts may be composed of various types of operational doors and windows that allow the opening up of interior spaces onto the sidewalks and terraces, including French doors, glazed overhead doors, sliding doors, walk-through double and triple hung windows, and others that will support the opening up of interior spaces to the outside.
- G. Commercial street fronts may be two stories in height if the facade design reflects this and is distinguished from other uses on floors above.



FIGURE 4.5 Example of a small penthouse that provides access to a rooftop terrace.



FIGURE 4.6 Canopies can help to define lobby entrances

Sec. 4.5 Attached House

Attached Houses have a simple massing which should either unify the building as a single composition or emphasize a series of distinct units designed to compliment one another. Uninterrupted facades of more than three units are not permitted. The typical characteristics of this building type are highlighted below:

- » Main body width: 16 to 32 feet
- » Ground story height (floor to floor): 10 feet
- » Upper story height (floor to floor)
  - › Residential: 9 feet typically

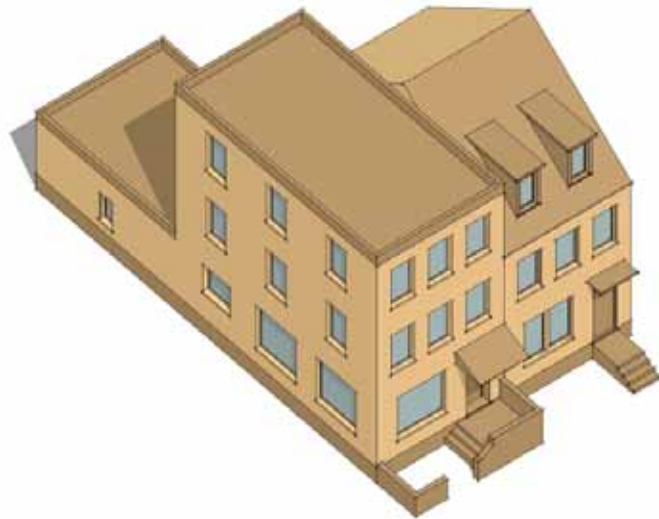


FIGURE 4.7 Massing and Composition



FIGURE 4.8 Attached Houses may have an elevated entry to provide some separation from street activity



FIGURE 4.9 On end units corners may be emphasized through wrapping windows or wrap around porches

TABLE 4.1 Facade Articulation Requirements	
Vertical Articulation	
Full facade height bays are encouraged at corners	
Facades over 24 feet wide should include a plane break and or material change to enhance the vertical articulation	
Horizontal Articulation	
The building must be defined by a base middle and top using window composition, ornament and special features to accomplish this	
Residential entries should be raised 2–3 feet when possible and take the form of a stoop or porch; the porch floor sets the base line	
The middle is characterized by residential windows	
The top can be articulated by varying roofline and/or cornice to define a skyline profile	

TABLE 4.2 Building Composition Requirements		
Transparency		
	min.	max.
Ground story (min.)	30%	30%
Upper story (min.)	30%	30%
Blank wall width (max)	n/a	12'
Transparency requirements to apply to all facades facing a street or urban open space		
Transparency is calculated as a percentage of the wall surface of a particular story, and has no limitation as to its location within the wall surface		
Building Elements		
Architectural elements such as punctuated doorways, bay windows, balconies, and decorative eaves and cornices are recommended to provide human-scale buildings		



Sec. 4.6 Type II Building

These buildings are three to ten story urban buildings that can house residential, office or commercial uses either in a mixed-use format or as a single use. The charts to the right list key requirements for this building type.

These buildings should have simple massing while incorporating human-scale elements (such as ground floor commercial street-fronts) that responds to the urban context. The typical characteristics of this building type are highlighted below:

- » Main body width: 48 to 280 feet
- » Ground story height (floor to floor)
  - › Residential: 10 feet
  - › Non-residential: 14 feet
- » Upper story height (floor to floor)
  - › Residential: 9 feet typically
- » Roof pitch (rise:run): flat roof or 15:12

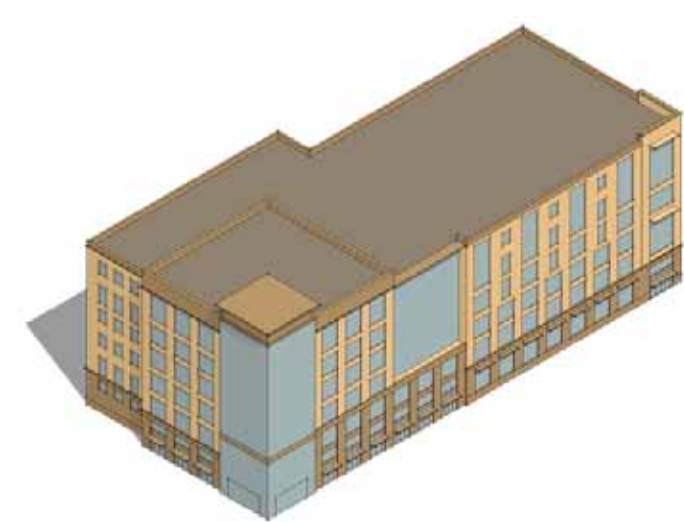


FIGURE 4.10 Massing and Composition



FIGURE 4.11 Example of how vertical bays are articulated through a change in materials, and a change in plane.



FIGURE 4.12 Corner elements enhance the composition of a building and may also be used to terminate vistas.

TABLE 4.4 Massing Requirements
Main body depth: <ul style="list-style-type: none"><li>• Standalone building: 55 feet</li><li>• Liner building: 35 feet</li></ul>
Ground floor height (floor to floor): 24 feet max. Note: Atria may exceed that allowance as an exception

TABLE 4.5 Facade Articulation Requirements
Vertical Articulation
Vertical bays should be articulated at a minimum of 45 feet and a maximum of 120 feet in width
If an element is greater than 60 feet, it must be further subdivided
Each vertical element may be distinguished by one of the following: Material, color, architectural style, height, window type, facade composition, commercial streetfront or entry type
All street-facing corners should maintain a 0-foot setback for a minimum of 25 feet in both directions. 45 degree angled facades are permitted at street-facing corners as long as the angled facade is not longer than 15 feet.
Horizontal Articulation
The building must be defined by a base, middle and top using window composition, ornament and special features to accomplish this
For mixed-use buildings, ground floor commercial streetfronts should sit at grade wherever possible.
The middle is characterized by a continuous pattern of windows
The top can be articulated by varying roofline and/or cornice to define a skyline profile

TABLE 4.6 Building Composition Requirements		
Transparency		
	min.	max.
Ground story (min.)	50%	100%
Upper story (min.)	30%	100%
Blank wall width (max)	n/a	30 ft.
Entrance Doors are located in appropriate and prominent locations		
Transparency is calculated as a percentage of the wall surface of a particular story, and has no limitation as to its location within the wall surface		
Architectural Elements		
Architectural elements such as punctuated doorways, bay windows, balconies, and decorative eaves and cornices are recommended to provide human-scale buildings		



## Sec. 4.7 Tower Building

Tower Buildings are defined as being taller than twelve stories and in some locations within the site have no maximum height requirement. The charts to the right list key requirements for this building type.

In order to protect view corridors, the regulating plans allow for tall buildings in particular locations as identified in Section 2.6. These buildings can contain a variety of uses including office, residential, hotel and/or commercial and retail. While towers are more vertical in nature, the facade should still maintain vertical articulation and a clear sense of a base, middle, and top. Towers are typically characterized by the following:

- » Typical width: 80 to 100 feet
- » Typical depth: 225 to 250 feet
- » Ground story height (floor to ceiling):
  - › Residential: 10 feet
  - › Non-residential: 14 feet
- » Upper story height (floor to floor): 10 feet min
- » Roof pitch (rise:run): flat or 8:12

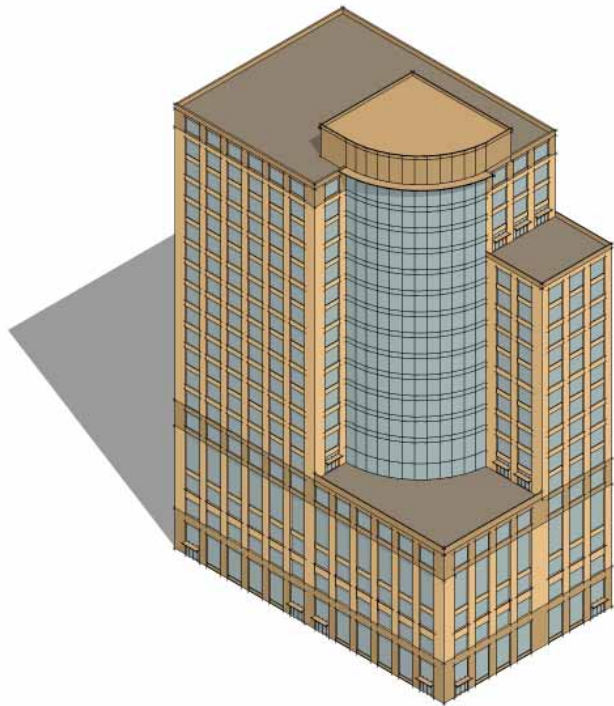


FIGURE 4.13 Massing and Composition



FIGURE 4.14 Tower composition broken composed of vertical elements



FIGURE 4.15 Tower composition broken composed of vertical elements

TABLE 4.8 Massing Requirements
Ground floor height (floor to floor): 24 feet max. Note: Atria may exceed that allowance as an exception

TABLE 4.9 Facade Articulation Requirements
Vertical Articulation
For modern towers, no single plane shall be wider than 100 feet on the main tower
The base should be articulated with each element at a minimum of 24 feet wide and a maximum of 60 feet wide
Horizontal Articulation
Define base middle and top * may use window composition, ornament and special feature to accomplish this
For mixed-use buildings, ground floor retail commercial streetfronts should sit at grade wherever possible.
The top can be articulated by varying roofscaped to enrich the facade of the street

TABLE 4.10 Building Composition Requirements		
Transparency		
	min.	max.
Ground story (min.)	50%	100%
Upper story (min.)	30%	100%
Blank wall width (max)	n/a	30 ft.
Transparency requirements to apply to all facades facing a street or urban open space		
When glazing consists of more than 50% in a contiguous area of any one facade, it must vary in appearance in the following ways: surface articulation, change in color, pattern (fritting) over 40% of the glazed area.		
Doors are located in appropriate and prominent locations		
Transparency is calculated as a percentage of the wall surface of a particular story, and has no limitation as to its location within the wall surface		
Architectural Elements		
Architectural elements such as punctuated doorways, bay windows, balconies, and decorative eaves and cornices are recommended to provide human-scale buildings		



# Section 5. Signage, Lighting, and Site Elements

- Sec. 5.1 Introduction 48
- Sec. 5.2 Signage 49
- Sec. 5.3 Sidewalk Cafes 54
- Sec. 5.4 Lighting 55
- Sec. 5.5 Materials 56
- Sec. 5.6 Site Furnishings 58

## SUSTAINABILITY GOALS

- » Provide safe, convenient, and comfortable transit-waiting areas
- » Provide safe and secure bicycle storage facilities
- » Specify dark sky compliant lighting and energy efficient technologies
- » Specify regionally/locally manufactured and extracted, recycled and reclaimed materials
- » Specify energy efficient fixtures such as street lights, traffic lights, etc to reduce energy consumption for operating public infrastructure

## APPLICABLE LEED-ND POINTS (2009 Standards)

- NPD Credit 7 — Transit Facilities
- GIB Credit 13 — Infrastructure Energy Efficiency
- GIB Credit 15 — Recycled Content in Infrastructure
- GIB Credit 17 — Light Pollution Reduction





## Sec. 5.1 Introduction

All signage, lighting, and site elements within the redevelopment area should serve to portray the Lower Hill Site Redevelopment as a cohesive place. Varying degrees of standards and recommendations are provided in this section to ensure this goal. The most prescriptive of these is Signage which shall adhere to the Pittsburgh Zoning Code Title Nine: Zoning Code, Article VI, Development Standard, Chapter 919: Signs (along with some modifications set forth in the following section) and the SP Zoning Ordinance adopted by the City of Pittsburgh on the Lower Hill site, and the least prescriptive being general recommendations for what should occur within private development blocks.

Each section focuses on a particular category (Signage, Sidewalk Cafes, Lighting, Materials, and Site Furnishings), and within these there are standards and recommendations categorized by location within the site (Building, Public Right-of-Way, Open Spaces, and Development Blocks).



FIGURE 5.1 Perspective showing the intended character of Wylie Street with richness and cohesiveness in signage, lighting, materials, and furnishings.



Sec. 5.2 Signage

Signage in the Lower Hill Site Redevelopment shall follow the Pittsburgh Zoning Code Title None: - Zoning Code Article VI - Development Standards Chapter 919 (“Chapter 919”), as modified by the SP Zoning Ordinance text applicable to the Specially Planned District (the “SP District”) and as otherwise set forth below. Generally, and except as modified by the SP-11 text, signs permitted within the GT District are permitted in Sub-districts 2 and 3, and signs permitted within the RP Districts are permitted in Sub-district 1. This section sets forth the provisions of Chapter 919 that apply in the Lower Hill Site Redevelopment and highlights how the sign regulations applicable to the site differ from the standard provisions of Chapter 919. The highlighted differences (which are denoted by red text) are applicable to the Lower Hill site only, and nothing in this Section should be construed to otherwise amend Chapter 919.

5.2.1 Applicable Provisions of Pittsburgh Zoning Code Chapter 919: Signs (as modified for this PLDP)  
The following types of Business Identification Signs are to be added to the Special Definitions and shall be regulated by the Sign regulations of the chapter:

919.01 — GENERAL | 919.01.C SPECIAL DEFINITIONS

- 25. Window Sign  
*Window Sign means a permanent sign of vinyl or paint directly applied to the window or door glass of a retail storefront for the purpose of business identification.*
- 26. Suspended Sign  
*Suspended Sign means a sign that is suspended from overhead structures of pedestrian walkways or arcades.*
- 27. Awning Sign  
*Awning Sign means a sign applied to a semi-permanent fabric shading device for the purpose of business identification.*
- 28. Marquee or Canopy Sign  
*Marquee or Canopy Sign means a sign that is integrated into the to architectural design of the building and permanently attached. Such signs are constructed of lasting materials such as metals or plastics. Further regulations on Marquee or Canopy Signs can be found in section 919.03.M7 of the zoning code.*

- 29. Cinema Movie Sign  
*Cinema Movie Sign means a sign that is used to advertise showings at a theater. There may be a series of Cinema Movie Signs on a building facade, corresponding in number to the number of theaters in a building.*
- 30. Restaurant Menu Sign  
*Restaurant Menu Sign means a sign that presents a food menu for the on premises eating establishment.*
- 31. Table Umbrella Sign  
*Table Umbrella Sign shall mean a sign attached to, painted on or inscribed upon an umbrella or parasol used by a restaurant or retail establishment in connection with an outdoor seating area.*
- 32. Arena Display Sign
  - » *Arena Display Signs (defined below) shall be permitted in Sub-Districts 2 and 3 regardless of whether any such sign is located on the same premises as a Major Public Destination Facility, subject to the following conditions:*
    - » *(a) Any Arena Display Sign shall not be visible from Sub-district 1.*
    - » *(b) No more than two (2) Arena Display Signs shall be permitted in the SP-11 District, and the placement of each Arena Display Sign shall be subject to Final Land Development Plan approval, which approval process shall include review by CDAP. In addition, such placement shall be approved by the Department of Public Works for the purpose of determining that the proposed placement has no adverse impact on public health and safety.*
    - » *(c) Promotion and information shall be limited to (1) the name of the Major Public Destination Facility located within the SP-11 District, (2) the name of and information related to any events occurring at or in connection with the owner of and/or the primary tenant of such Major Public Destination Facility, including the names of event sponsors, and (3) identifying marks and logos of the Major Public Destination Facility, the owner of and/or the primary tenant of such facility and/or sponsors of events occurring at or in connection with the owner of and/or primary tenant of such Major Public Destination Facility.*
    - » *(d) Identifying marks and logos shall be limited as follows: (1) such marks or logos depicted on fifty percent (50%) or more of the face area of the sign shall have a maximum dwell time of thirty (30) seconds; and (2) such marks or logos may be depicted for unlimited dwell times provided the mark or logo is depicted on no more than one eighth (1/8) of the sign area.*
    - » *(e) In no event shall such a sign be permitted to display products or services of sponsors.*

CHAPTER 919: – SIGNS	
919.01. – General	919.03.M.2 – Signs Containing Animation, Rotation or Illumination in HC, GT, NDI, UI and GI Districts
919.01.A – Purpose	919.03.M.3 – RP, EMI and GPR and OPR Zoning Districts
919.01.B – Applicability	919.03.M.4 – HC Districts
919.01.C – Special Definitions	919.03.M.5 – LNC, UNC, CP, and AP
919.01.D – Signs Exempt from Permit Requirements	919.03.M.6 – NDI, GI and UI Districts
919.01.E – Prohibited Signs	919.03.M.7 – GT and DR Zoning Districts
919.01.F – Signs Identifying Non-conformities	919.03.M.8 – Projecting Signs
919.01.G – Illumination	919.03.N – Identification Signs Not Regulated Above
919.01.H – Liability for Damages	919.03.O – Electronic Non-Advertising Signs
919.01.I – Maintenance	919.03.P – Major Public Destination Facility Electronic Signs
919.01.J – Sign Removal	919.03.Q – Special Signage Design Districts
919.01.K – Double-Face Signs	919.03.R – Neighborhood Gateway Signs
919.02. – Advertising Signs	919.04. – Neighborhood Business District Sign Regulations
919.02.A – General Location	919.04.A – General
919.02.B – Subdistricts	919.04.A.1 – Purpose
919.02.C – Electronic Advertising Signs	919.04.A.2 – Applicability
919.02.D – Separation from Other Uses	919.04.A.3 – Neighborhood Business Sign Districts Established
919.02.E – No Painting Directly on Walls	919.04.A.4 – Special Definitions
919.02.F – Number Allowed	919.04.B – Regulations Applicable to All Neighborhood Business Districts
919.02.G – Maximum Face Area	919.04.B.1 – Number of Signs
919.02.H – Height	919.04.B.2 – Sign Size
919.02.I – Spacing	919.04.B.3 – Location
919.02.J – Illumination	919.04.B.4 – Materials
919.02.K – Location on Restricted Access Highways	919.04.B.5 – Illumination
919.02.L – General Prohibitions	919.04.B.6 – Historic Plaques
919.02.M – Maintenance	919.04.C – East Carson Street District Standards
919.02.N – Nonconforming Advertising Signs	919.04.C.1 – Intent
919.02.O – Location in Historic Districts	919.04.C.2 – Number
919.02.P – Annual Inspection Tags	919.04.C.3 – Size
919.02.Q – Advertising Signs on Public Transit Shelters, as follows	919.04.C.4 – Location
919.03. – Nonadvertising Signs	919.04.C.5 – Materials
919.03.A – Signs Inside Buildings	919.05. – Temporary Event Signs
919.03.B – Flags	
919.03.C – Plaques, Cornerstones and Nameplates	
919.03.D – Historic Tablets	
919.03.D.1 – Residential Districts	
919.03.D.2 – Other Districts	
919.03.E – Bulletin Boards	
919.03.F – Real Estate and Political Signs	
919.03.F.1 – General	
919.03.F.2 – Residential, LNC, UNC, GT, DR, EMI Districts	
919.03.F.3 – HC, NDI, UI and GI Districts	
919.03.G – Address Signs	
919.03.H – Holiday Displays	
919.03.I – Convenience Information Signs	
919.03.J – Public Information Signs	
919.03.K – Public Parking Identification and Rate Signs	
919.03.K.1 – Residential Districts	
919.03.K.2 – Other Districts	
919.03.L – Home Occupation Signs	
919.03.M – Business Signs and Identification Signs	
919.03.M.1 – General	

\*Red text indicates portions of the code that are modified



- » (f) Each individual Arena Display Sign shall not exceed 200 square feet in area.
- » (g) During daylight hours between sunrise and sunset, luminance shall be no greater than two thousand five hundred (2,500) nits. At all other times, luminance shall be no greater than two hundred fifty (250) nits.
- » (h) Motion is permitted on any Arena Display Sign and such signs shall not be subject to any minimum dwell times or maximum twirl times.
- » (i) Arena Display Signs shall not emit sound.

For purposes of this Section, an “Arena Display Sign” shall mean an electronic sign that promotes events and information in connection with a Major Public Destination Facility (as defined in the City of Pittsburgh Zoning Ordinance) located within the SP-11 District.

33. Large Video Display

A Large Video Display shall be permitted within either Sub-district 2 or 3, subject to the following conditions:

- » (a) The placement of a Large Video Display shall enhance the district, display Events of Cultural Significance (as defined below) and provide non-advertising information regarding the SP-11 Lower Hill Planned Development District to the public.
- » (b) No more than one (1) Large Video Display within the SP-11 District shall be permitted.
- » (c) The placement of a Large Video Display shall be situated such that the display screen faces Urban Open Space, and such placement shall be subject to Final Land Development Plan approval, which approval process shall include review by CDAP. In addition, such placement shall be approved by the Department of Public Works for the purpose of determining that the proposed placement has no adverse impact on public health and safety.
- » (d) The Large Video Display shall not be an Advertising Sign and such sign shall be permitted to display Events of Cultural Significance, works of art, public service messages and non-advertising images from the SP-11 Lower Hill Special Planned Development District.
- » (e) Identifying marks and logos of sponsors for Events of Cultural Significance shall be permitted subject to the following criteria: (1) such marks or logos depicted on fifty percent (50%) or more of the face area of the sign shall have a maximum dwell time of thirty (30) seconds; and (2) such marks or logos may be depicted for unlimited dwell times provided the mark or logo is depicted on no more than one eighth (1/8) of the sign area.

- » (f) Except as otherwise expressly permitted herein in connection with the airing of a live Event of Cultural Significance, in no event shall such the Large Video Display Sign be permitted to display products or services of sponsors.
- » (g) The Large Video Display shall not exceed 1200 square feet in face area.
- » (h) The Large Video Display may emit sound provided that such sound shall not exceed the sound levels set forth in Section 917.02(B).
- » (i) During daylight hours between sunrise and sunset, luminance shall be no greater than two thousand five hundred (2,500) nits. At all other times, luminance shall be no greater than two hundred fifty (250) nits.
- » (j) The Large Video Display shall be permitted to operate between the hours of 6 A.M. and 11 P.M. The Large Video Display shall be permitted to operate past 11 P.M. provided (i) an Event of Cultural Significance occurs live and simultaneously with the broadcast on the Large Video Display, and (ii) the Large Video Display is turned off immediately following the conclusion of such Event of Cultural Significance.
- » (k) Any structure containing the Large Video Display shall not be required to comply with façade articulation requirements of the Preliminary Land Development Plan for the portion of the structure upon which the Large Video Display is located.

For purposes of this Section, the term “Event of Cultural Significance” shall mean any sporting events, theatrical performances, movies, historic occurrences, and events intended for public entertainment, provided the primary purpose of such an event is the event itself and not advertisement of any business, commodity or service. An Event of Cultural Significance that is broadcasted at the time the event occurs may include commercial advertisements only if such advertisements are broadcasted simultaneously with and as part of the event.

The Prohibited Signs portion of the Zoning Code is rewritten as follows:

919.01 — GENERAL | 919.01.E PROHIBITED SIGNS

The following signs shall be prohibited in all zoning districts including this SP District:

- » Any display, decoration, sign or show window that contains any material depicting, describing or relating to “specified sexual activities” or “specified anatomical areas” from any public right-of-way or public park.
- » Any sign that imitates or resembles any official traffic sign, signal or device.
- » Any sign erected or maintained in such a manner as to obscure or otherwise physically interfere with an official traffic sign, signal or device or to obstruct or physically interfere with the driver’s view of approaching, merging or intersecting traffic.
- » Any sign erected, painted or maintained upon fences, trees, rocks or similar natural feature.
- » Any sign that is structurally unsafe or in disrepair.
- » Any use of trademark colors, shapes or symbols as a primary exterior architectural element
- » Any “box” letters or signs (internally-lit boxes with translucent covers).
- » Any sign illuminated by bare floodlight, blinking or flashing bulbs.





The Plaques, Cornerstones and Nameplates shall be permitted as follows:

919.03 — NON-ADVERTISING SIGNS | 919.03.C PLAQUES, CORNERSTONES AND NAMEPLATES

Memorial plaques, cornerstones or name plates bearing only the name of the owner, governmental dignitaries, the name or use of the structure or the date of erection of the structure shall be permitted in any district, subject to the following:

- » *Such signs shall be limited to three (3) of each type for each structure and shall not exceed six (6) square feet in face area;*
- » *Such signs shall be limited to two (2) along each street frontage, built in or attached to a wall of the structure.*

The Non-Advertising Signs are permitted as follows:

919.03 — NON-ADVERTISING SIGNS | 919.03.F.1: REAL ESTATE AND POLITICAL SIGNS | 919.03.F.2: RESIDENTIAL, LNC, GT, DR, EMI DISTRICT

In the Residential, LNC, UNC, HC, GT, DR and EMI zoning districts and in this SP District such signs:

- » *(a) Shall not exceed twelve (12) square feet in face area;*
- » *(b) Shall be non illuminated and limited to three (3) along each building frontage.*

The Non-Advertising Signs are permitted as follows:

919.03 — NON-ADVERTISING SIGNS | 919.03.M BUSINESS SIGNS AND IDENTIFICATION SIGNS | 919.03.M.7: GT AND DR ZONING DISTRICTS

In the GT and DR Zoning Districts:

- » *(a) Wall mounted signs, except for major Public Destination Facilities, are permitted provided that;*
  - » *(i) The total face area shall not exceed two (2) square feet of sign face area for each lineal foot of building wall width to a maximum of eighty (80) square feet and shall be mounted no higher than forty (40) feet above grade except where expressly permitted.*
  - » *(ii) For buildings with multi-commercial tenants on the first and second floors one (1) additional tenant business or identification sign shall be permitted per tenant identifying the name of the tenant or business, the total face area of which shall not exceed two (2) square feet of sign face area for each lineal foot of tenant frontage to a maximum of eighty (80) square*

*feet per sign on each wall or facade and shall be mounted no higher than the second floor above grade.*

- » *(iii) Tenant signs are to be located within the facade area of the tenant. Maximum letter height on all wall signs below forty (40) feet above grade shall be four (4) feet.*
- » *(b) For major Public Destination Facilities, the total face area of wall mounted signs below forty (40) feet shall not exceed a total of three (3) percent of exposed building facade area or a maximum of two hundred (200) square feet per facade, whichever is smaller, shall permit electronic identification signs with no motion or animation, and shall be subject to design review and approval by the City Planning Commission.*
- » *(c) Only the name of the building or business shall be mounted higher than forty (40) feet above grade and may face in all directions. These signs may be mounted from the roof, or project above the roof peak or parapet wall if the sign is an integral part of the building design. Signs shall not exceed in face area 40 square feet or two (2) percent of exposed facade area whichever is larger, shall be limited to four (4) per building, shall include no motion or animation, shall not exceed a luminance of two thousand five hundred (2,500) nits during daylight hours between sunrise and sunset, shall not exceed a luminance of two hundred fifty (250) nits at all other times, shall permit electronic illumination with no motion or animation, and shall be subject to design review and approval by the City Planning Commission. All applications shall include certification that the sign will comply with luminance level standards at the time of application and must certify again that the sign is operating in compliance with the standards prior to issuance of an occupancy permit.*
- » *(e) Marquee or canopy sign is a sign attached to, painted on or inscribed upon a marquee or canopy that otherwise complies with any other governmental regulation; the face of such sign may project above or below the marquee or canopy, shall not exceed eighteen (18) inches in height, shall not project more than six (6) inches horizontally from the surface of such marquee or canopy, shall not contain flashing lights or animation and shall meet the definition of business or identification sign; provided that a marquee or canopy sign attached to a Public Assembly (general) facility which shall otherwise be subject to this provision, may be up to eight (8) feet in height and subject to review by the Planning Commission under the Project Development Plan criteria put forth in Section 922.10.*

- » *(f) Awning signs- Lettering, emblems, or logos are permitted on the sloped awning surface, provided that the angle be no less than (30°) thirty degrees from the vertical face of building; or on the awning flap, provided that the awning flap is no greater than (12) twelve inches in height. Awnings Signs shall not be internally illuminated (from below the awning), but may be illuminated by a direct exterior lighting source located above the awning and attached to the building exterior. Translucent materials, metals, and plastics are not permitted as awning materials.*
- » *(g) Window sign-These signs shall be no larger than 25% of the window area on which they are placed.*
- » *(h) Suspended signs- Suspended Signs whether perpendicular or parallel to the building facade shall be a maximum of twelve (12) square feet per side. The area of irregular or three-dimensional shapes shall be computed by multiplying the height and width at the widest points. All Suspended Signs shall maintain a minimum of 10 feet clearance above the sidewalk.*
- » *(i) Cinema Movie sign- Such signs shall not exceed (14) fourteen square feet and may lit from within or from an external lighting source.*
- » *(j) Restaurant Menu sign- Such signs are wall-mounted boxes with a transparent cover and can be lit from within or from an external lighting source. Restaurant Menu Signs shall not exceed (4) four square feet.*

The Projecting Signs portion of the Zoning Code has been rewritten as follows:

919.03 — NON-ADVERTISING SIGNS | 919.03.M.8: PROJECTING SIGNS

- » *(c) Projecting signs shall be permitted in this SP District*
- » *(d) General Requirements*
  - » *(i) For each street-level business one (1) sign is permitted for every thirty (30) linear ft. of building facade, up to a maximum of three (3) signs per tenant; not to be within 30 feet of one another*
  - » *(ii) Projecting signs shall be a maximum of twelve (12) square feet per side. The area of irregular or three-dimensional shapes shall be computed by multiplying the height and width at the widest points;*



5.2.2 Signage – As Applied to Buildings

Building Signs, in addition to complying with the zoning code, shall adhere to the following:

- » Signage location zone (or signage band) identified in the design of all buildings containing commercial frontages in order to ensure order along the facade of the building and enhance the public realm.
- » The signage band shall fit within the architectural divisions of the building, shall not span across structural bays or columns, and shall be situated above the storefront clerestory and below the second-story windows.
- » Signs incorporated by cornices or parapets shall be limited in size and be made an integral part of the architecture.
- » Wall and window mounted menu signs that present a menu for an eating establishment shall be no more than six square feet of surface area and not project more than 4 inches.
- » The inclusion of creative shapes, symbols, and three-dimensional motifs with accompanying text is strongly encouraged in all sign design.



FIGURE 5.2 Example of signage projecting above onto a canopy [sect. 919.03.M7, (e)]



FIGURE 5.3 Example of wall-mounted sign



FIGURE 5.4 Example of wall-mounted sign



FIGURE 5.5 Example of projecting sign



FIGURE 5.6 Example of wall-mounted sign above a canopy (see illustration below)



FIGURE 5.7 Example of a storefront composed with a variety of signage types



FIGURE 5.8 Elevation illustrating the various building signs that may occur along a facade



5.2.3 Signage – Within the Public Right-of-way

Beyond building signage, signs in the public realm must comply with all City of Pittsburgh codes, ADA standards regarding sidewalk clearances, and receive approvals and/or permits from the Department of Public Works, and if required, consent of the Art Commission. These signs are intended to convey business events, special programs, menu features, etcetera, may fall into one of the following categories:

A. Sandwich or A-Frame Signs

These are double-faced, free-standing signs that may have permanent or erasable information on both sides. Sandwich or A-Frame Signs are designed as a way to identify daily specials not typically included on a restaurant menu, or in the case of retail, special sales. They are also used to help identify businesses located down alleyways or in courtyards off of the primary frontage. These shall be no more than six square feet of surface area per side. These signs are permitted in the landscape /street furniture zone as identified in the diagrams on the next page.

B. Table Umbrella Signs

Similar to awnings, table umbrellas or parasols may be used by eating establishments to add vibrant color to outdoor spaces and to create attractive outdoor seating areas. Restaurants may use the table umbrellas to enhance the identification of their business through the selection of thematic colors or by adding text or logos directly onto the umbrellas. A restaurant may have a number of table umbrellas which shall be consistent in design. No product advertisements are permitted.

C. District Wayfinding

These signs are intended to orient visitors to the neighborhood and direct pedestrians to neighborhood and city-wide destinations, as well as amenities. These types of signs can also provide neighborhood identity and branding. These signs can be illuminated. These signs shall be coordinated with the overall wayfinding signage program currently being developed by the City of Pittsburgh and reviewed by appropriate authorities. These signs are permitted for businesses within the SP District. Wayfinding signs within the district may advertise businesses within the same district.

5.2.4 Signage – Within Open Spaces

The following types of signs may exist in open spaces in order to create a strong and recognizable identity for the neighborhood’s open spaces. These signs may fall into one of the following categories:

A. Open Space Identification, Wayfinding, and Regulatory Park Signs

At entry points to open space areas, identification signs shall be permitted to mark the boundaries of the open space as well as provide a unique character. A welcome statement may offer a brief history of the space and pertinent facts, such as maps, directions to amenities, etc. Regulatory signs shall convey the rules and regulations associated with the open space and shall conform to all City of Pittsburgh codes.

Identification signs shall be of consistent design and treated as unified architectural features for the open space areas. Ideally these signs shall be integrated into perimeter walls, pavilions, gateways, and other features rather than predominately freestanding.

Wayfinding and regulatory signs shall be of the same character as the identification signs within the open space but can be free standing.

B. Interpretive Signage

In recognition of the rich cultural history of the Lower Hill Site Redevelopment, interpretive signs shall convey the story of the people who lived here and significant events over time throughout the district. The interpretive signage shall be of consistent design and can be mounted horizontally or vertically. This signage may also be an art opportunity.



FIGURE 5.9 Examples of district street sign/wayfinding identification. They can include branding graphics and colors.



FIGURE 5.10 Example of Wayfinding identification that includes development branding elements and graphics

FIGURE 5.11 Example of Wayfinding identification that is geared towards specific businesses and streets within the development

FIGURE 5.12 Example of Interpretive Sign for plantings



FIGURE 5.13 Example of Identity Signage incorporated into architectural feature

FIGURE 5.14 Example of artistic expression of interpretive signage on bollard

FIGURE 5.15 Example of paving enhanced with identity signage



Sec. 5.3 Sidewalk Cafes

5.3.1 Sidewalk Cafe – Locations and Design

The design of sidewalk cafes is an integral part of neighborhood character and should be coordinated with building signage and streetscape elements. Various streetscape conditions will be located within the Lower Hill Site Redevelopment. The street type plan in the Regulating Plans section describes the differences between intended residential and mixed-use streets. The goal of these guidelines is to promote a cohesive atmosphere for the pedestrian as they traverse the site.

In the case of the retail streets, the streetscape elements also have to be carefully designed to encourage sidewalk cafes. The following are general considerations for retail streets:

- » Retail, restaurant, and other food and beverage operators are encouraged to design and operate exterior sidewalk areas in a manner that will create a seamless connection from their interior operation to the exterior spaces.
- » At sidewalk setback locations, storefront designs that reinforce the connection between inside and outside are encouraged. Storefront designs can use operational doors and windows that allow for direct connection and movement between the sidewalk and restaurant or shop interiors.
- » The use of outdoor plantings, planting boxes, and flower boxes is recommended in the sidewalk setback areas.
- » Awnings, canvas umbrellas, and heat lamps may be used to extend the seasonal use of sidewalk areas but must be contained within the defined cafe space.

5.3.2 Amendments to Sidewalk Cafe City Standards

In most cases, Sidewalk Cafes are located within public streets and therefore, tenants must adhere to the existing **City of Pittsburgh's Department of Public Works Sidewalk Cafe and/or applicable encroachment standards**. Additional, special provisions for this district are as follows:

- » Cafe areas shall maintain a minimum 5-foot clear pedestrian path along the sidewalk between cafe enclosure and adjacent tree planter or other fixed element.

- » Cafe areas shall be defined with enclosures. If the cafe is located adjacent to the restaurant/cafe storefront, temporary or semi-permanent, perpendicular (to the storefront) enclosures shall extend the depth of the outdoor dining area. Parallel to the building, a temporary enclosure shall be used to keep the cafe from spilling into the clear sidewalk zone. Cafes along the curb shall be defined by temporary enclosures.
- » In all cases the enclosures shall be removable and may take the form of removable rope and stanchion, planters, panels or other temporary devices such as fences. High quality components should be used; plastic is prohibited.

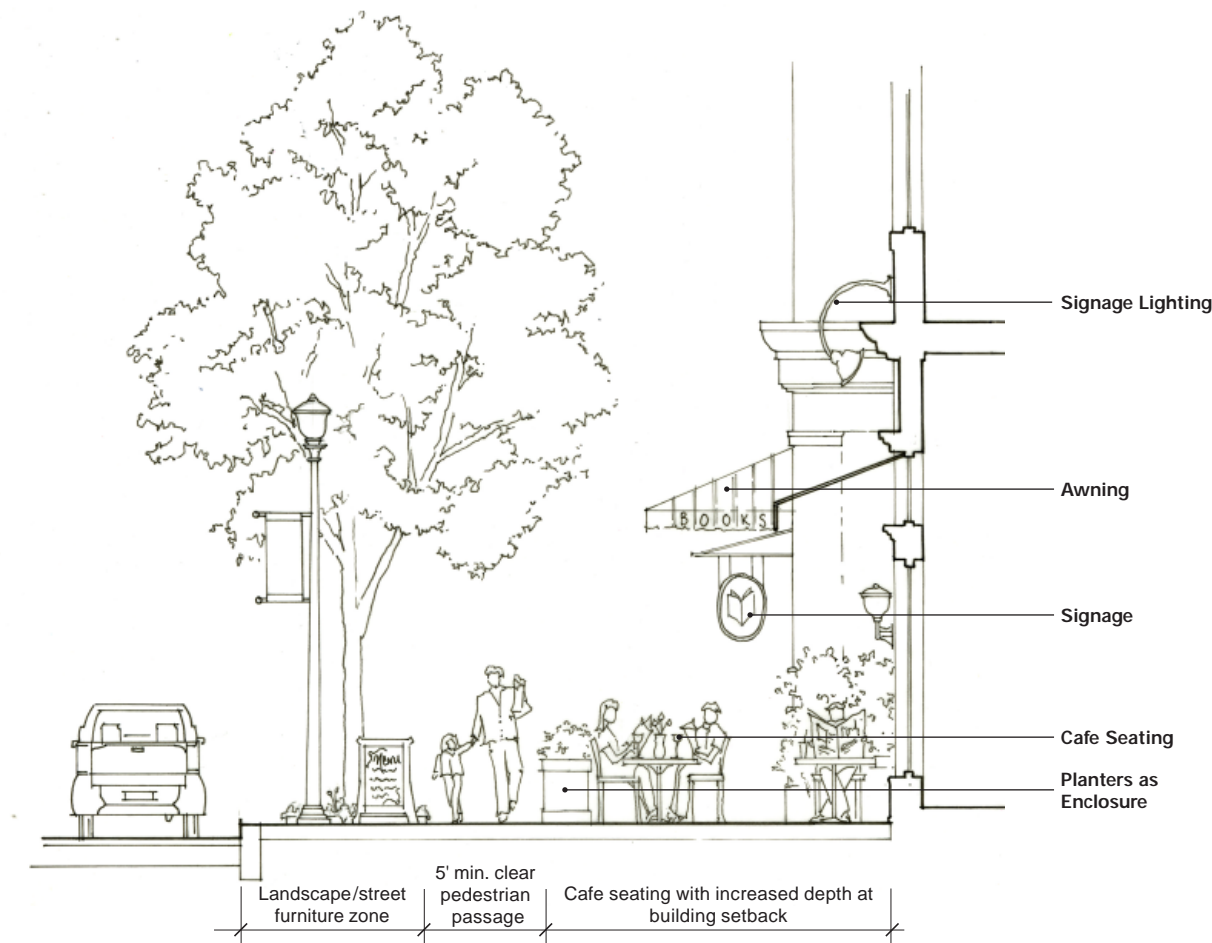


FIGURE 5.16 Section diagram illustrating streetscape elements

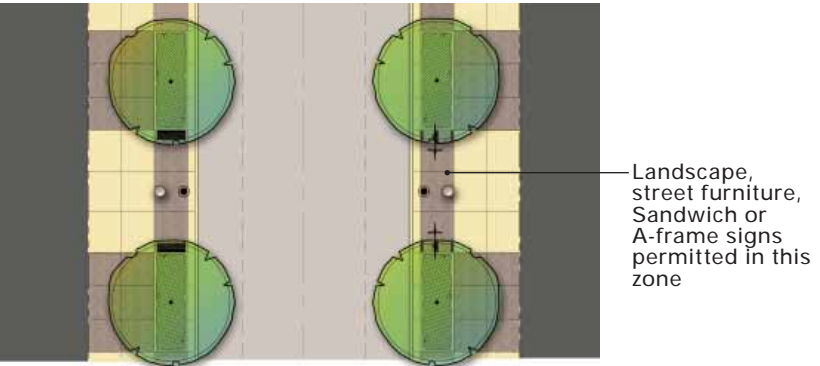


FIGURE 5.17 Plan view of landscape/street furniture zone between street trees



FIGURE 5.18 Streetscape that accommodates outdoor dining, a clear pedestrian passage, and landscaping



FIGURE 5.19 Example of planters used as an enclosure for an outdoor cafe



FIGURE 5.20 Example of outdoor cafe spaces on a sloping street



Sec. 5.4 Lighting

5.4.1 Building Lighting

Lighting in this district will be subject to the [City Code Ordinance No.8, Chapter 1201 Lighting Code](#), which was updated in April 2011. This document outlines guidelines for lighting performance, yet does not specify particular fixtures and types. Although the primary consideration for building lighting shall be performance, it is encouraged that lighting be well designed and a critical component of storefront design. The photos below illustrate the variety of potential light fixtures and styles. Some general considerations are listed below.



FIGURE 5.21 Examples of wall mounted lighting

5.4.2 Site Lighting – General Requirements

In addition to the building lighting, site lighting plays a major role in setting the tone for creating an enjoyable atmosphere within the development. Public safety is of utmost importance when designing the site lighting. Various types of lighting and locations shall be permitted throughout the development. Each of the fixtures chosen for this district will need to adhere to the following criteria (\* Credit: Pittsburgh LED Street Light Research Project):

- » Light color shall be white, preferably 3,500 Kelvin, but with any adjustable range from 2,800 to 5,000 Kelvin.
- » The Color Rendering Index shall be 80 or greater.
- » The fixtures shall be primarily down-firing. Up-firing fixtures, if used for aesthetic effect, shall be aimed at white horizontal reflectors to produce diffused light downward to prevent Dark Sky intrusion.
- » The LED source shall not be visible to drivers, bicyclists, or pedestrian unless they are directly under the fixture.
- » LED luminaires should be guaranteed for a minimum ten-year life span with no more than a 30% deterioration of illuminance as measured by footcandles.

- » The lighting pattern on the ground shall be overlapping ovals.
- » Typical spacing for luminaires on 25-foot to 30-foot poles may vary from 85 feet to 150 feet. On 15-foot to 18-foot poles the spacing should be approximately 80 feet. For each installation, the developer shall obtain a photometric study to ascertain the appropriate spacing based on the specific fixture and site condition.
- » All luminaires shall be control-ready with the ability in the future to be individually monitored and controlled by wired or wireless central networks.
- » Back-lighting of building facades shall not exceed a height of 6 inches above the sidewalk.
- » Luminaires design shall be compatible with the local context.
- » All luminaires shall be directed inward to eliminate excess light from spilling onto adjacent parcels by using cut-off or asymmetrical fixtures.

5.4.3 Site Lighting – Within the Public Right-of-Way

- » City of Pittsburgh approved pedestrian and street light poles, traffic signal poles, and bollards shall be used. Unified illumination, reduction of glare, and use of dark sky compliant fixtures are all priorities.
- » All fixtures shall adhere to the requirements in Section 5.4.2.

5.4.4 Site Lighting – Within Open Spaces

- » Lighting proposed for the Open Spaces shall be comprehensively designed with a mixture of light fixtures that complement the landscape setting and uses of the open space. Pedestrian scale light fixtures, bollards, and decorative wall/ground lighting are acceptable. Artistic solutions for lighting are encouraged.
- » All fixtures shall adhere to the requirements in Section 5.4.2.

5.4.5 Site Lighting – Within the Development Blocks

- » Lighting in the development blocks has the most flexibility and shall be integrated into the development block's site, landscape, and building design.
- » All fixtures shall adhere to the requirements in Section 5.4.2.



FIGURE 5.22 Example of street/ pedestrian-scale LED post light that incorporates indirect light to comply with Dark Sky Regulations.



FIGURE 5.23 Example of City of Pittsburgh standard bollard



FIGURE 5.24 Current City of Pittsburgh light fixture



FIGURE 5.25 Example of LED pavement lighting — this type of application would be appropriate in Parks and Open Space and in the Development Blocks.

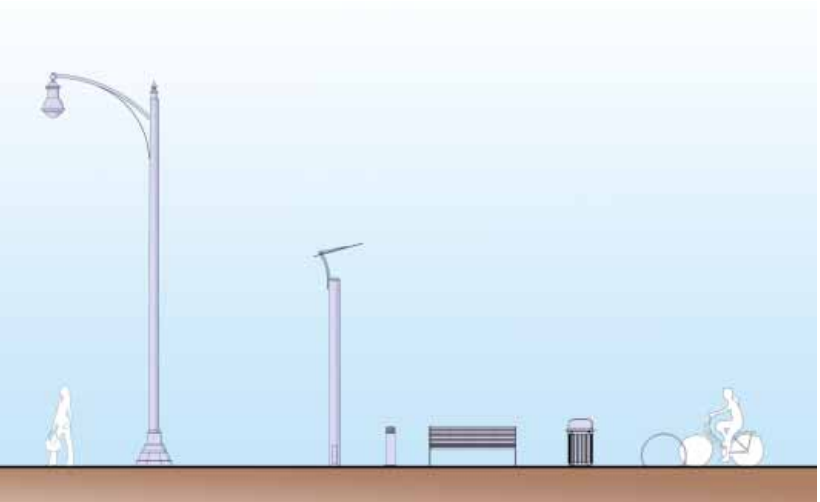


FIGURE 5.26 Streetscape kit of parts showing pedestrian and street level lighting standards, benches, trash receptacles, and bicycle racks.



Sec. 5.5 Materials

5.5.1 Materials – Within the Public Right-Of-Way

A. Paving Materials

- › Street Paving: Concrete Finished Street, depth and finish to meet City of Pittsburgh Standards.
- › Curbs: 8 inches wide and maximum 6 inches exposed face Deep Concrete Curbs meeting City of Pittsburgh Standards.
- › Curb Apron: Minimum 6-inch thick Broom Finish Concrete
- › Main Sidewalk Area: For streets with 10 feet or greater depth of sidewalk, minimum 4-inch thick pattern of alternate bands of paving shall be installed using Broom Finish or Trowel Finish Concrete with Exposed Aggregate Concrete Paving alternating with rhythm of tree planters. Refer to diagram in Section 3. For streets with less than 10-foot depth of sidewalk, minimum 4-inch thick of continuous Broom Finish or Trowel Finish Concrete shall be installed with a continuous parallel Exposed Aggregate Concrete Paving at the Tree Planter Verge.
- › Tree Planter Verge: Minimum 4-inch thick Exposed Aggregate Concrete paving connecting all tree planters in verge. Refer to diagram in Section 3. For street with Stormwater Tree Planter Basins, Permeable pavers shall be used connecting the basins. Refer to diagram in Sections 3.
- › Tree Planter Protection: 4-inch concrete curbs shall define the edges of each tree planter to protect plantings and reduce salt damage. As an alternate, decorative perimeter fencing can be used to control traffic.
- › Crosswalks: At Wylie Avenue intersections with Street 1 and Street 2, crosswalks shall be delineated with either brick or special paving (per DPW standards). At all other intersections, painted lines shall be required. Stamped Concrete or other surface applications are not permitted. Handicapped Ramps with ADA Warring Pavers shall meet City of Pittsburgh Standards.

B. Plant Materials

- › Street Trees: Trees to be Specimen Grade, Street Tree Quality with a minimum 3- to 3½-inch caliper, at 30 to 40 feet oc, and planted in specified top soil mixture. Ground plantings vary depending on location. Refer to Section 6.4 Planting Palette for various applications.



FIGURE 5.27 Example of brick crosswalk and ADA compliant detectable warning pavers



FIGURE 5.28 Example of concrete planter curb, planting bed, and broom finish concrete sidewalk



FIGURE 5.29 Example of exposed aggregate paving, broom finish concrete paving, and concrete planter curb.

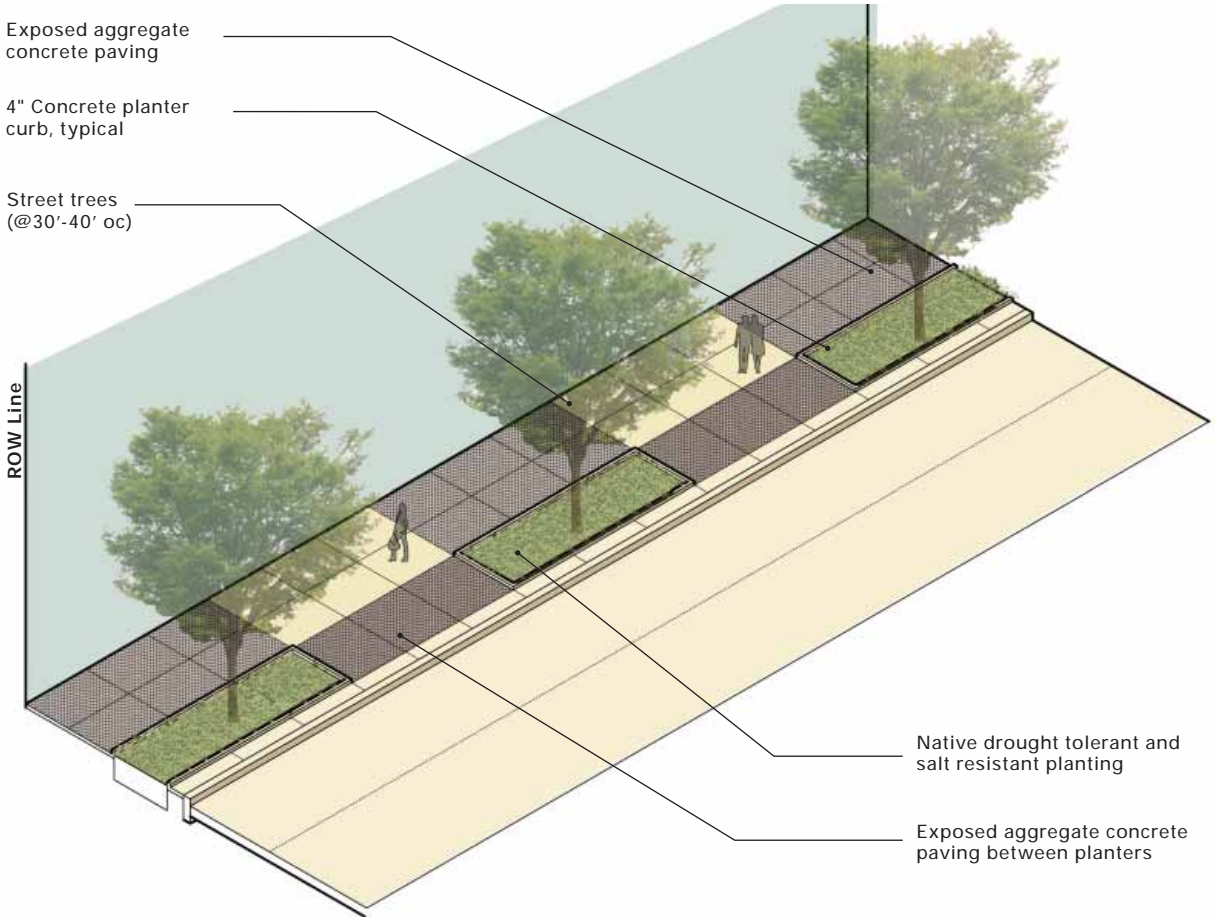


FIGURE 5.30 Axonometric drawing showing street paving configurations. Exposed aggregate paving aligns with the tree planters and extends to the ROW line, alternating with broom finish concrete between planters along the public sidewalk. Exposed aggregate paving is used in the band between planters, and a broom finish concrete accent strip is adjacent to the street curb.

*Note: For Sustainable Streets, refer to Section 3.2 for drawing section showing infiltration planters*



FIGURE 5.31 Example of tree planter protection fence in addition to planter curb for high traffic areas.



C. Barrier Railings

- » If conditions warrant, barrier railings should be used to control pedestrian flow and for safety where abrupt grade changes occur. All railings are to meet the current City of Pittsburgh’s Building Code and be a minimum of 42 inches in height. Materials shall be durable metals, preferably stainless or painted steel or aluminum. These Barrier Railings shall be considered as an opportunity for integrating art in the public realm.
- » At Washington Place, a barrier railing shall be required between Centre Avenue and Bedford Avenue to ensure pedestrian crossings at the desired locations. Refer to Figure 5.36.

D. Outdoor Cafe Railings

- » Railings and fencing for Outdoor Cafes are permitted, see Section 5.3.

5.5.2 Materials – Within Open Spaces

A. Paving Materials

- » For neighborhood unification, broom finish and exposed aggregate shall be the prominent material. At gathering points and activity areas, upgrade such as bluestone, sandstone or granite stone paving, concrete unit pavers, brick pavers, and other similarly types of materials shall be used.

B. Plant Materials

- » A native palette of shade trees, ornamental trees, shrubs, groundcovers, grasses, and perennials should be used. Refer to Section 6.4 Plant Palette.

5.5.3 Materials – Within Development Blocks

A. Paving Materials

- » Within the Development Blocks, the most flexibility shall be allowed offering a wide selection of paving materials that will provide an unified setting and compliment the overall aesthetic development of the building and site.

B. Plant Materials

- » A native palette of shade trees, ornamental trees, shrubs, groundcovers, grasses and perennials should be used. Refer to the plant palette page for specific species and topsoil mixture.



FIGURE 5.32 Examples of native and drought tolerant plant palettes



FIGURE 5.33 Example of cafe barriers using fence panels and moveable planters adjacent to the sidewalk. Note the permanent planter that holds the corner of the ROW line and reflecting the architecture of the building



FIGURE 5.34 Example of barrier railings to control pedestrian traffic

FIGURE 5.35 Example of contemporary, art-influenced barrier railings



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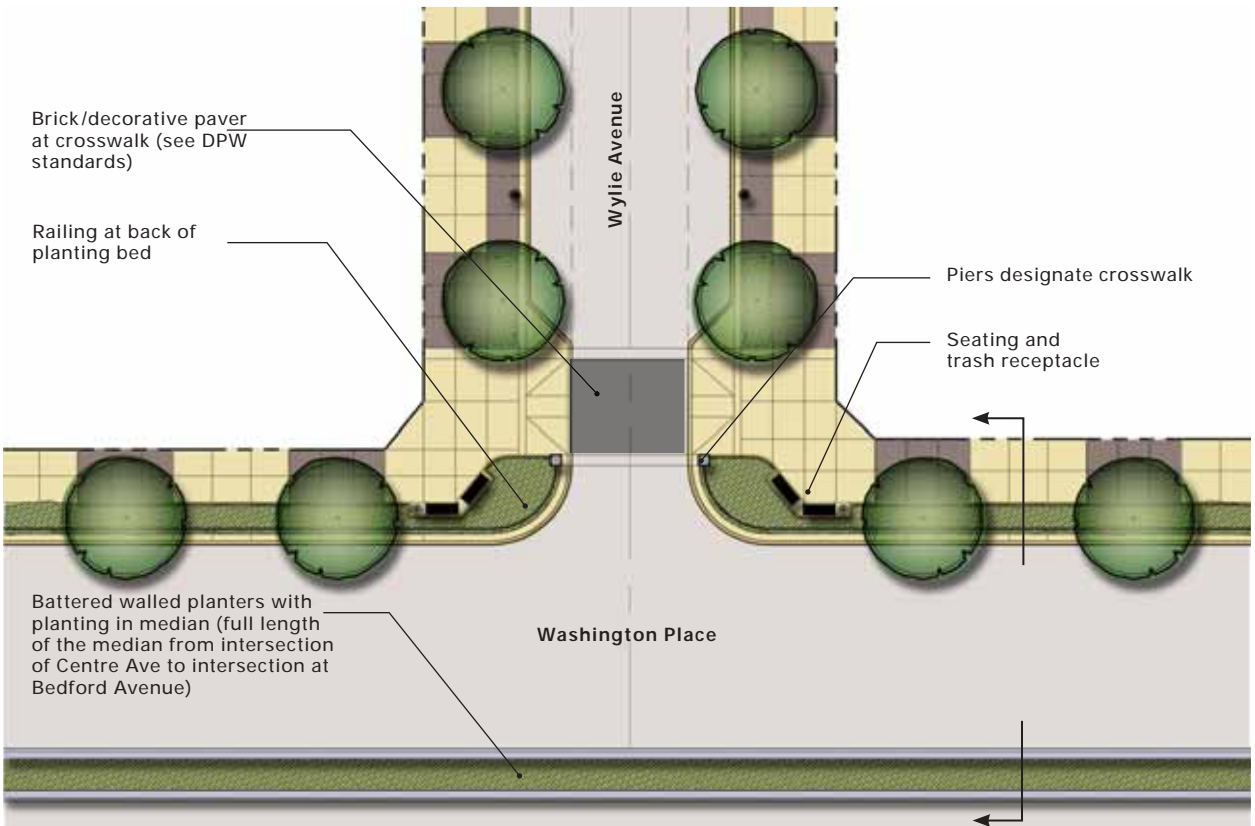


FIGURE 5.36 Enlarged section and plan of barrier control at intersection of Wylie Avenue and Washington Place. Battered wall planters, similar to the planters at Grant Street will be used in the median along Washington Place. At the intersection, a railing, planting bed, and street trees will help deter cross block pedestrian traffic.



Sec. 5.6 Site Furnishings

5.6.1 Furniture – Within the Public Right-of-Way

Includes bicycle racks, benches, trash/recycling receptacles, and bus shelters. Refer to the following page for suggested locations of site furnishings.

A. Seating

- » High quality and durable metal benches, with powder coat or stainless steel finishes, can be used within the Public Right-of-Way. Benches, with backs or backless styles, shall be placed as to not block pedestrian flow and shall be integrated into, but not limited to, the Tree Planting Verge. Benches can also be provided of a material that matches the tree verge materials.

B. Bicycle Racks

- » High quality and durable metal bicycle racks shall be installed at key areas throughout the neighborhood. Bicycle racks shall be placed as to not block pedestrian flow and should be integrated into, but not limited to, the Tree Planting Verge.

C. Trash Receptacles

- » High quality and durable recycling and trash receptacles shall be used and combined receptacles are desired. Trash receptacles shall be placed as to not block pedestrian flow and shall be placed at street intersections and at convenient mid-block locations.

D. Bus Shelters

- » A high quality and durable Bus Shelter shall be placed at the designated location within the site. Free pedestrian flow around bus shelters shall be maintained.
- » Bus shelters can be of custom design to match the architectural styles of the Open Space Areas or Development Blocks, or be one of the City of Pittsburgh’s Standard Shelters or better.
- » Locate at the intersection of Wylie Avenue and Street 1.

E. Bollards

- » Bollards should be used for traffic control and security. Bollards may be lit. Removable and regular bollards shall be located where necessary to control traffic and enhance pedestrian safety. The City of Pittsburgh Standard Bollard or better shall be used.

5.6.2 Furniture – Within Open Spaces and Development Blocks

The Open Spaces and Development Blocks shall have the most flexibility in choosing bicycle racks, benches, trash/recycling receptacles, and other site furnishings to convey a unique image or branded character of the various spaces. Furnishings shall conform to the overall aesthetic of the open space or development block and complement its architectural character. In all cases, materials must be of high quality, durable materials.



FIGURE 5.37 Example of security bollards (Landscape Forms)



FIGURE 5.38 Example of bus shelter



FIGURE 5.39 Example of bus shelter with a Green Roof



FIGURE 5.40 Example of moveable table/chairs and umbrellas appropriate for Parks and Open Space and Development Blocks



FIGURE 5.41 Example of bench (Landscape Forms)



FIGURE 5.42 Example of dual recycling and trash container (Landscape Forms)



FIGURE 5.45 Example of recycling container (Landscape Forms)



FIGURE 5.43 Example of City-endorsed bicycle rack for development-wide use



FIGURE 5.44 Example of bench and trash receptacle for development-wide use



The following images show configurations of site furnishings at typical streets and intersections. These furnishings include bicycle racks, benches, trash/recycling receptacles, and planters.

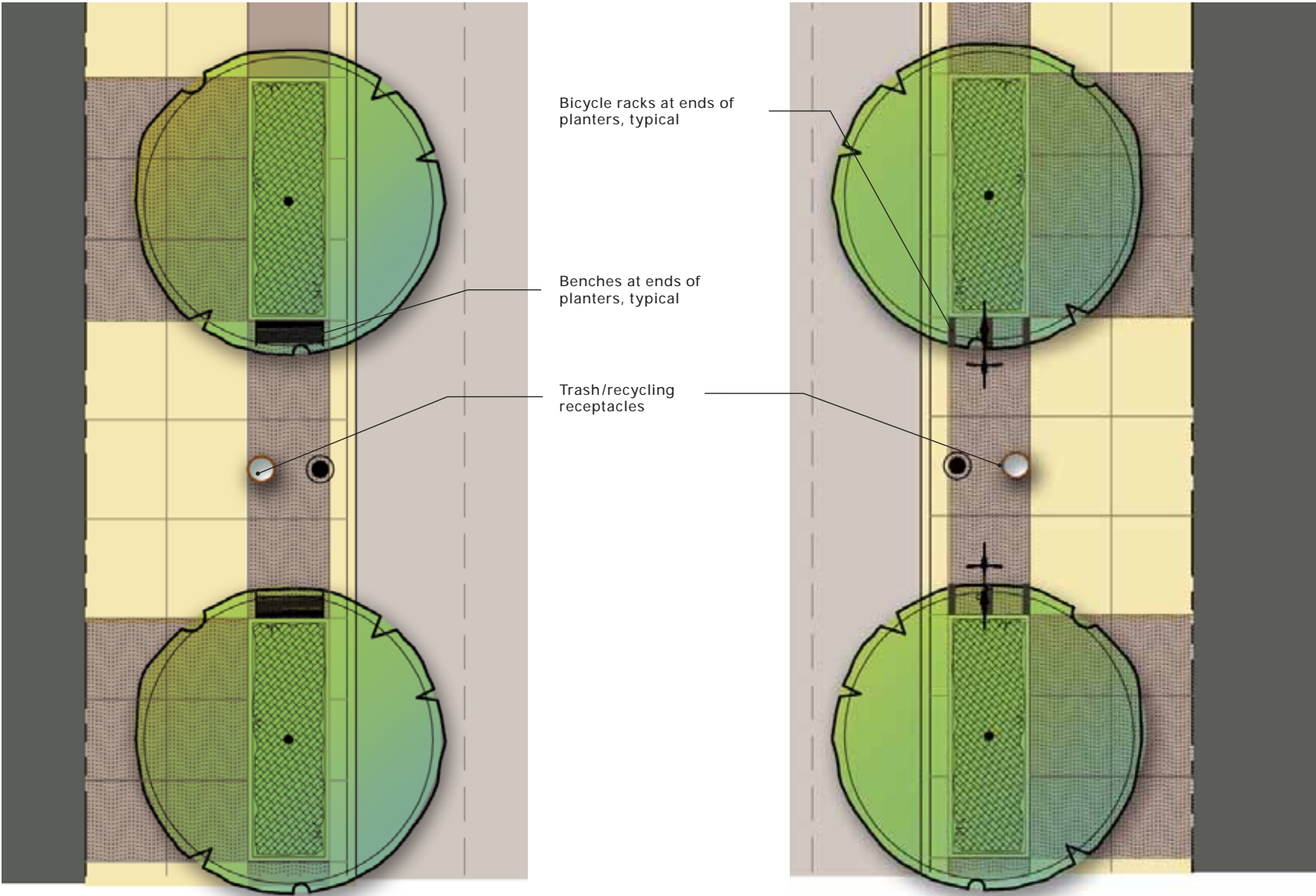


FIGURE 5.46 Example of street furniture configuration showing benches at the ends of planters with a trash/recycling receptacle and light post centered in between.

FIGURE 5.47 Example of street furniture configuration showing bicycle racks at the ends of planters with a trash/recycling receptacle and light post centered in between.

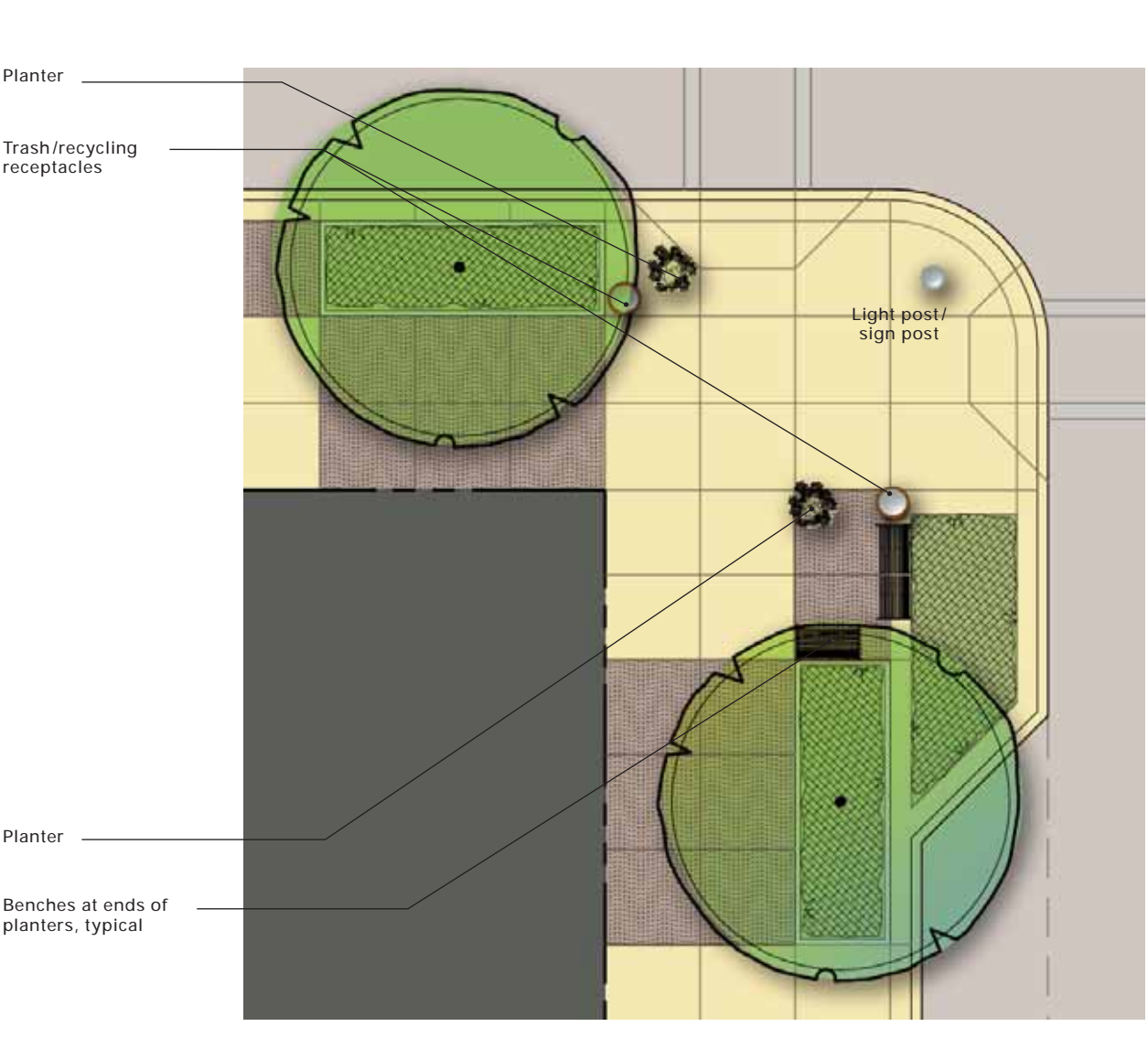


FIGURE 5.48 Example of street furniture configuration at an intersection showing benches and planters creating a small "garden room" and planters and trash/recycling containers along pedestrian paths. Additional plant material is incorporated in the curb bump-outs.



# Section 6. Open Space and Landscape Standards

- Sec. 6.1 Introduction 61
- Sec. 6.2 Open Space Plan 62
- Sec. 6.3 Public Art Plan 66
- Sec. 6.4 Plant Palette 67
- Sec. 6.5 Plant Palette Streetscapes 68
- Sec. 6.6 Landscape Standards: Frontages 69
- Sec. 6.7 Residential Landscape Requirements 70
- Sec. 6.8 Commercial Landscape Requirements 72
- Sec. 6.9 Landscape Standards: Green Roofs 73

## SUSTAINABILITY GOALS

- » Plant canopy trees to provide shade and reduce heat island effect
- » Reduce lawn areas
- » Use native and drought tolerant plant palette to reduce water demand and maintenance
- » Use recessed lawns to aid in stormwater runoff and for passive infiltration
- » Plant edible gardens
- » Capture stormwater runoff
- » Install rain gardens, rain barrels, and rain chains to better manage stormwater
- » Specify a landscape palette that increases habitat for birds, butterflies, and insects
- » Use porous paving in patios and walks to reduce stormwater runoff
- » Use dark sky compliant lighting and energy efficient technologies
- » Specify high efficiency irrigation equipment and climate based controllers. Design irrigation systems that use non-potable water only where required.

## APPLICABLE LEED-ND POINTS (2009 Standards)

- GIB Pre 1 — Certified Green Building
- GIB Credit 1 — Certified Green Buildings
- GIB Credit 4 — Water-Efficient Landscaping
- GIB Credit 8 — Stormwater Management
- GIB Credit 9 — Heat Island Reduction



## Sec. 6.1 Introduction

In this section, open space and landscape standards focus on capturing and treating stormwater, providing for green infrastructure and buildings, as well as habitat creation and urban planting strategies.

The purpose of the Open Space and Landscape Standards section of the PLDP is to illustrate the intent for residential and commercial landscapes while promoting standards to ensure this vision for this new district. A high-quality, sustainable landscape is an integral part of this neighborhood. These landscapes will complement and soften the built environment and lend character to houses, streets, and neighborhoods. Furthermore, the residential landscapes can create intimate outdoor rooms, reinforce entrances to houses, and help delineate property boundaries.

Landscaping is required for all private open space and Urban Open Space areas as outlined in this section. This section includes information regarding:

- » open space types and requirements,
- » public realm landscape elements,
- » landscape standards for retail and commercial frontages,
- » landscape palettes, and
- » Green Roofs.



FIGURE 6.1 Perspective showing the character of the Community Open Space.



Sec. 6.2 Urban Open Space Plan

The Urban Open Space requirement for the newly-formed SP District in which the Lower Hill Site Redevelopment will be a part, consists of 10% dedicated land. The Urban Open Space requirement is being aggregated and is therefore not required on a parcel by parcel basis. Semi-public space and green space is not included in the current calculations although it is envisioned that these types of spaces will be located throughout the overall development.

The 10% urban open space required is being provided in three major parcels: The east portion of the Cap Open Space, the Civic Open Space, and the Community Open Space. In addition, the west portion of the Cap Open Space (which is not designated as Urban Open Space) is being proposed to bridge over the Crosstown Boulevard connecting the neighborhood to Downtown. Each of the Cap Open Space, the Civic Open Space, and the Community Open Space will be renamed at a later time, but for the purpose of classification, this document will use these current labels. Each open space has specific requirements and fulfill specific community needs.

The following three pages identify the program needs for each of these open spaces with accompanying conceptual designs. Within these open spaces, sustainability goals include using a native plant palette to reduce water demand and maintenance, using permeable paving to reduce storm-water runoff, and specifying canopy trees to provide shade and reduce the heat island effect.



FIGURE 6.2 Open space framework plan showing open spaces and street trees along planted verges.



6.2.1 Cap Open Space

The Cap Open Space Plan bridges the gap from the Lower Hill Site Redevelopment to Downtown Pittsburgh by utilizing the existing urban fabric.

A small stand-alone pavilion with either a restaurant and associated outdoor dining or a retail destination with outdoor seating is envisioned adjacent to this open space. Additionally, a tree-lined promenade with bench groupings, garden plantings, and user amenities is a prominent feature. The promenade also acts as an overlook offering dramatic views of Pittsburgh's skyline.

The corner entry plaza is marked by a pylon, a signage or decorative entry feature, and is an ideal opportunity for an artist intervention. The pylon may also carry signage and information for visitors.

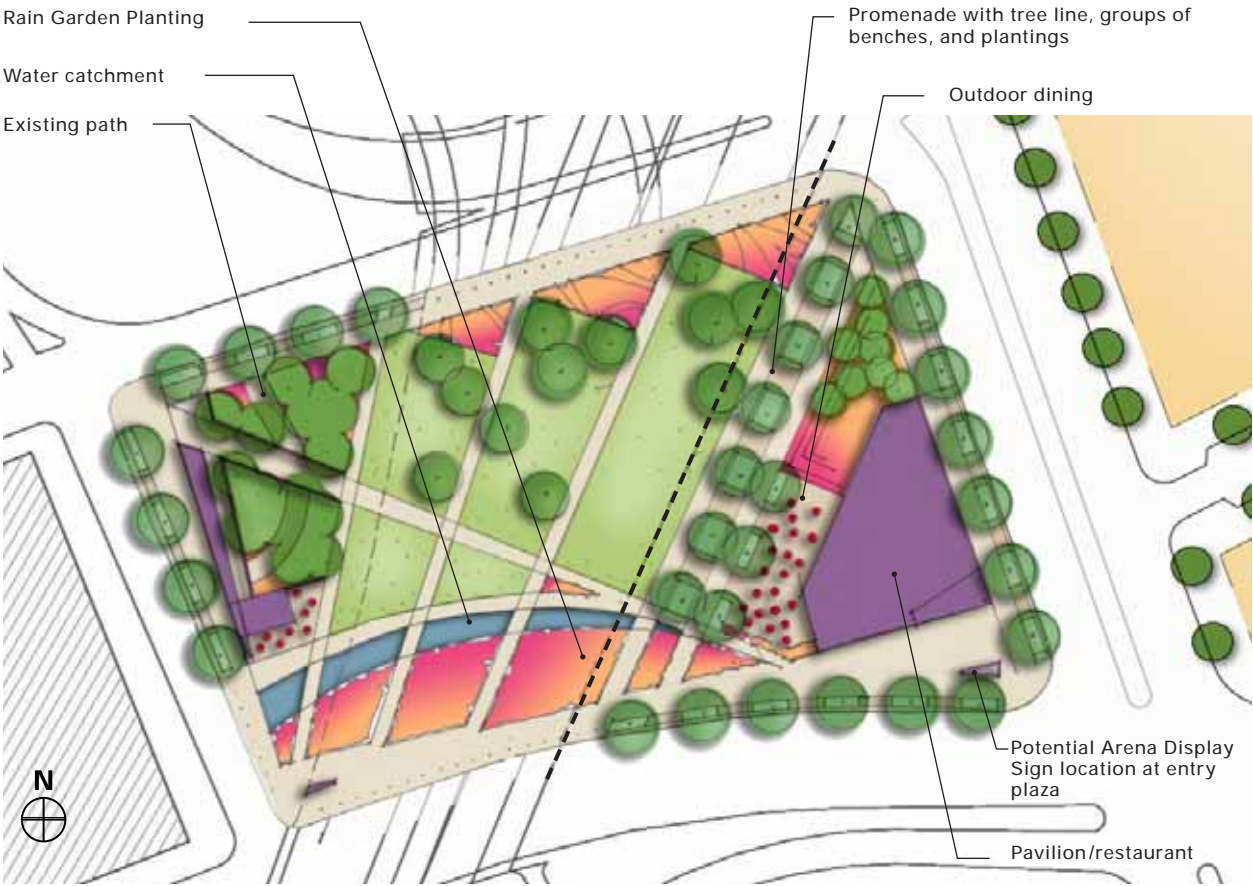


FIGURE 6.3 Enlarged illustrative plan showing a small adjacent pavilion/restaurant with an outdoor dining terrace, pylon marking the entry plaza, and a tree-lined promenade



FIGURE 6.4 Perspective showing the layout of the open space.



FIGURE 6.5 Native plantings line walkways and trails



FIGURE 6.6 Typical open space destination restaurant



FIGURE 6.7 Promenade lined with shade trees and bench clusters



FIGURE 6.8 Upper and lower level promenades separated by tree line, plantings, and seating



6.2.2 Civic Open Space

The heart of the development will be the Civic Open Space that provides recreational space for daily leisure use, small events, and larger festivals. The central feature of this space is a gently sloping lawn that culminates in amphitheater seating and a stage. A water feature may also be incorporated at the bottom of the slope to aid in stormwater runoff infiltration.

A small pavilion flanks the open space and will contain various user amenities and open space storage. The side of a proposed building will contain a large video display screen that will have the potential to show hockey games, other sporting events, and concerts, connected to the SP District. The perimeter of the open space is tree-lined and contains a rich palette of native plantings and seating options providing intimate garden room settings.

This space can be used for public festivals and gatherings and will have room for passive play.



FIGURE 6.9 Enlarged illustrative plan



FIGURE 6.10 Open space pavilion housing user amenities and storage of equipment for daily activities



FIGURE 6.11 Cafe with outdoor seating and heaters allow for year round use



FIGURE 6.12 Amphitheater seating provides space for lunch time story hour or other small scale daily events.



FIGURE 6.13 Image showing symphony event on stage and seating on sloped lawn beyond



FIGURE 6.14 Bollards and decorative paving bands line a festival street



6.2.3 Community Open Space

The Community Open Space is envisioned as a central gathering space for the residents of this new district. This open space shall include amenities that cater to a wide range of users. By providing creative play zones and courts, a variety of age groups can be accommodated. Community gardens or formal gardens organized by local residents may also be included to clean up edges and provide picturesque addresses for the surrounding residences. Shade structures and seating options shall also be provided at locations serving more than one play or activity area. A diagonal or arcing walk at 5% or less slope is a goal for this open space in order to provide accessibility to all.

In order to create a more sustainable open space, low maintenance and drought tolerant native plants will be proposed. Rain gardens may be created as demonstration gardens for local residents within this open space. The use of porous paving is highly encouraged in open spaces to lessen the impact of stormwater run-off.



FIGURE 6.16 Enlarged illustrative plan



FIGURE 6.15 An outdoor splash fountain may be considered for the Community Open Space



FIGURE 6.17 Open basketball courts are suitable in this urban location



FIGURE 6.18 Art pieces integrated into walkways and site tables allow for individual discovery.



FIGURE 6.19 Open lawn areas for active play



FIGURE 6.20 Small play areas with seating provide hours of entertainment. Water may also be incorporated into these spaces.



FIGURE 6.21 Pavilions along lawn areas provide relief from the sun



Sec. 6.3 Public Art Plan

Public art is a vital component of any active and vibrant community. A public process engaging members of the community and artists in order to brainstorm and collectively refine subject matter will produce rich, site specific art work. Therefore it is recommended that art be an important consideration in the implementation of this plan, and that an integrated approach to art and design be considered as blocks develop.

Both the new CONSOL Energy Center and the redevelopment of the Lower Hill Site Redevelopment offer outstanding opportunities for public art in open spaces, plazas, building lobbies, and facades. The art will be commissioned for site specific locations and to celebrate the rich heritage of Pittsburgh, the Hill District, the former Civic Arena, and to honor political, business, sports, and cultural icons. Opportunities for art on the CONSOL Energy Center were described in the *New Pittsburgh Arena Public Art Master Plan*. The Garden Passage is one such opportunity previously described in that plan.

Public art will be integral to the open space network and building fabric. Artists will be engaged early in the site design and building design process to insure that the art will be contextual and appropriate. Three categories of art include the following.

6.3.1 Interactive Art

Interactive art allows viewers to participate in some way. Viewers are often encouraged to touch, feel, read, or walk through a sequence of experiences. Possible examples for interactive art installations include interactive fountains, descriptive time line panels in railings, paving inserts, etc.



FIGURE 6.23 Art Resource: [Add Value. Add Art: A public art resource guide for developers](#). Prepared by the Office of Public Art for the Urban Redevelopment Authority, 2010. The report discusses the process for setting budgets, selecting artists, maintenance, and developing art plans.

6.3.2 Site Specific Art Installations

This type of art installation is created for a specific set of surroundings, unlike conventional art pieces that may be moved from place to place without losing meaning. These pieces draws out the character of their environment.

6.3.3 Integrated Art

Artists often collaborate with architects and planners in order to enhance the public domain. In the Lower Hill Site Redevelopment, many opportunities exist to upgrade the palette of site furnishings (benches, lights, railings, etc) with artist inspired additions. The diagram to the right illustrates possible locations for public art opportunities.

- Art projects should follow the recommendations of the city's ArtPGH plan. Installations, in the application of this site, are divided into three initiatives:
- » Public Right-Of-Way: Requires review by the Arts Commission and a robust review process
  - » Urban Open Spaces: Art installations are encouraged but will be privately administered.
  - » Private Development Blocks: Art installations are encouraged.

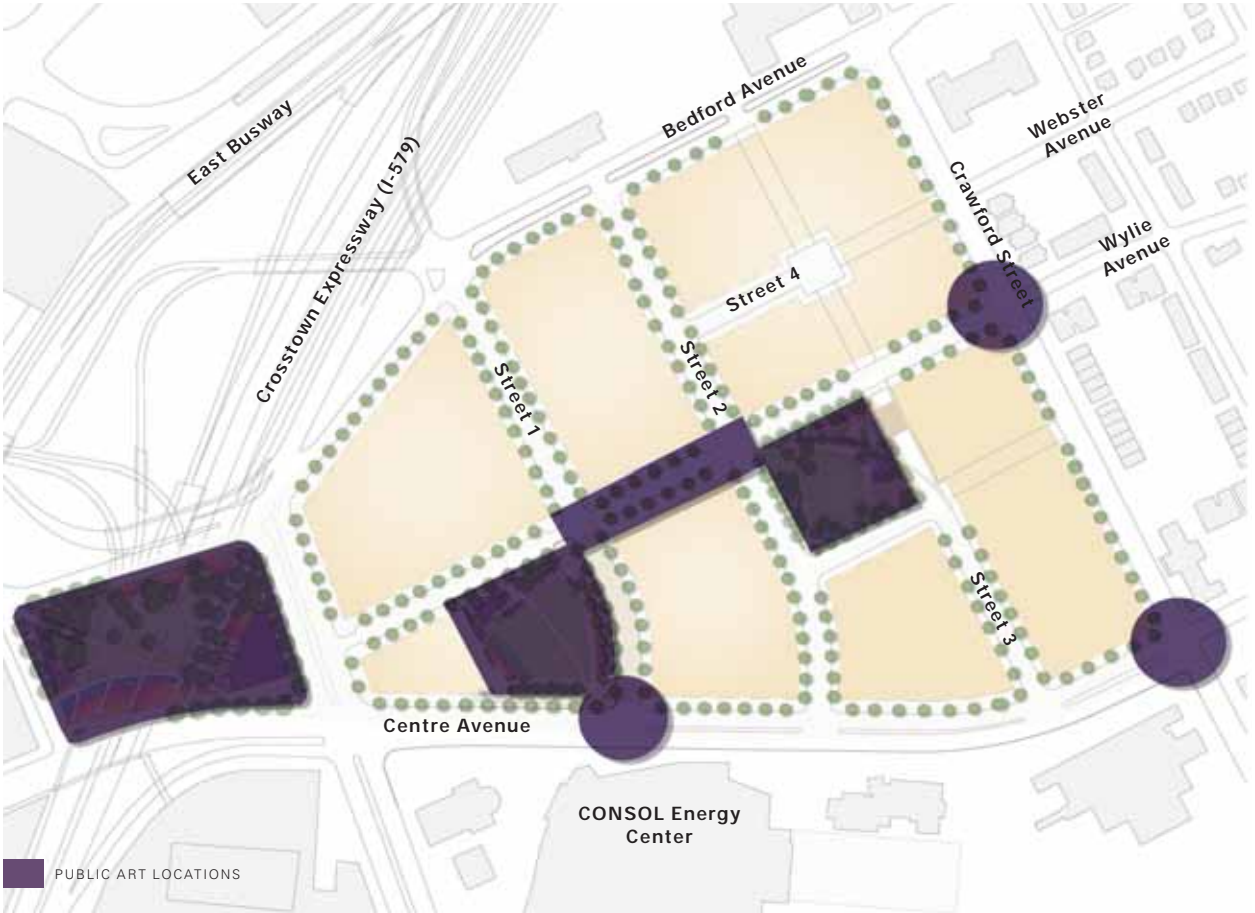


FIGURE 6.22 Plan showing potential locations of public art installations. Art opportunities are not limited to single installations but may include custom paving, railings, seating, and water features.



FIGURE 6.24 Example of public interactive art. The discs transmit whispers from one to the other allowing pairs of users to play.



FIGURE 6.25 Example of environmental art. The water course is etched into the paving providing information of the surrounding region and pedestrian interest.



FIGURE 6.26 Example of artist's scrolling text in paving

PUBLIC ART GOALS

Encourage high quality art for permanent locations and sites

Encourage opportunities for high quality temporary art

Encourage art work that engages, promotes, and educates around the sustainable strategies on site



Sec. 6.4 Plant Palette

6.4.1 Native Plants

Indigenous plants evolved with the local climate and the soil; therefore, they are perfectly suited to the region. There are many advantages to using local plants besides their ability to thrive. They are often low maintenance and thrive without the addition of fertilizers or pesticides, and they provide food and shelter for native wildlife.

The following list consists of the “best of the best” plant materials for use in the Lower Hill Site Redevelopment, and should serve as both a guide and a starting point for plant selection. The plant list focuses exclusively on native plant material suitable to the region. The Urban Forest Master Plan also provides guidance on this subject.

Many factors were considered in selecting the short list of plant materials including form and size, tolerance to urban conditions such as soil compaction, salt and brine spray, availability and hardiness, wildlife value, and beauty and seasonal color. The ideal plant for the proposed dense urban setting would be readily available and grow in almost any microclimate. It should be non-invasive, long lived, and provide forage and habitat for many songbirds and butterflies. This plant would also resist any disease or environmental stress and provide a vivid display of changing color throughout all seasons. Although this “ideal” plant is a fabrication, it is useful to underscore that plants making the following list needed to perform well in multiple categories versus being a standout in one particular category and showing poorly in several others. For additional information on using native plant material, reference the following websites:

- » [www.plantnative.org/nd\\_patova.htm](http://www.plantnative.org/nd_patova.htm)
- » [www.earthtonesnatives.com](http://www.earthtonesnatives.com)
- » [www.pawildflower.org](http://www.pawildflower.org)
- » [www.dcnr.state.pa.us/forestry/LandscapingBrochure.pdf](http://www.dcnr.state.pa.us/forestry/LandscapingBrochure.pdf)

6.4.2 Ornamental Plants

In some cases, ornamental plants (non native plants that are not invasive but do well in the climate) are acceptable. These plants will typically only be used at formal garden areas in limited quantities.

6.4.3 Green Roof Plants

If green roofs are used on development blocks, plant materials should be selected from non-invasive materials recommended by the manufacturer to insure compatibility with soil depths.

As another part of the urban forest, Green Roof planting is either intensive or extensive. Extensive Green Roof planting typically relies on a mixture of low lying plants such as sedums. Intensive plantings require more

soil and structure for support, but are able to provide habitat for birds, butterflies, and insects. Intensive plantings may use the perennials, groundcovers, and grasses on this list as well as the page that follows.

SCIENTIFIC NAME	COMMON NAME
CANOPY TREES	
Acer rubrum	Red Maple
Acer saccharum	Sugar Maple
Carya ovata	Shagbark Hickory
Fagus grandifolia	American Beech
Larix laricina	American Larch
Nyssa sylvatica	Black Tupelo
Prunus serotina	Black Cherry
Qercus alba	White Oak
Quercus rubra	Red Oak
Tilia americana	Basswood
Ulmus americana 'Princeton'	Princeton American Elm
UNDERSTORY TREES	
Amelanchier canadensis	Shadblow Serviceberry
Betula lenta	Black Birch
Betula nigra	River Birch
Cornus florida	Flowering Dogwood
Hamamelis virginiana	Witchhazel
Malus coronaria	Sweet Crabapple
Ostrya virginiana	American Hophornbeam
Pyrus malus	Apple (domestic)
DECIDUOUS SHRUBS	
Aronia melanocarpa	Black Chokeberry
Cornus racemose	Grey Dogwood
Cornus sericea	Red-osier Dogwood
Ilex verticillata	Winterberry (1 male:3 female)
Rosa virginana	Virginia Rose
Salix g. 'Melanostachys'	Black Pussy Willow
Sambucus canadensis	American Elder
Spiraea alba	Meadowsweet
Viburnum lentago	Nannyberry
EVERGREEN SHRUBS	
Gaultheria hispidula	Creeping Snowberry
Juniperus communis	Common Juniper
Kalmia angustifolia	Sheep Laurel
Ledum groenlandium	Labrador Tea
Taxus canadensis	Canada Yew

SCIENTIFIC NAME	COMMON NAME
GRASSES	
Andropogon gerardii	Big Bluestem
Eragrostis spectabilis	Purple Lovegrass
Panicum virgatum	Switch Grass
Schizachyrium scoparium	Little Bluestem
Sorghastrum nutans	Yellow Indian Grass
Spartina pectinata	Prairie Cordgrass
Tridens flavus	Tall Redtop
GROUNDCOVER	
Arctostaphylos uva-ursi (6"-12")	Bearberry
Asarum canadense (6"-12") (12"-18")	Wild Ginger
Cornus canadensis (3"-6")	Bunchberry
Dennstaedtia punctiloba (12"-18")	Hay-scented Fern
Dryopteris marginalis	Leatherwood Fern
Gaultheria hispidula	Creeping Snowberry
Juniperus horizontalis	Bar Harbor Juniper
Pachysandra procumbens (6")	Allegheny Spurge
Phlox divaricata (8"-18")	Canadian Phox
Sedum ternatum 'Larinem Park'	Stonecrop
Tiarella cordifolia (6"-12")	Foamflower
Trifolium repens	White Clover
PERENNIALS	
Anemone canadensis	Roundleaf Thimbleweed
Anemone quinquefolia	Wood Anemone
Aquilegia canadensis	Wild Columbine
Asclepias syriaca	Common Milkweed
Asclepias tuberosa	Butterfly Weed
Aster novae-anglieae	New England Aster
Caulophyllum thalictroides	Blue Cohosh
Cypripedium reginae	Showy Lady's Slipper
Eupatorium purpurea	Joe Pye Weed
Heliopsis helianthoides	Sweet Ox-eye
Iris versicolor	Blue Flag Iris
Rudbeckia hirta	Sweet Black-Eyed Susan
Penstemon digitalis	Foxglove Beardtongue
Verbena hastata	Blue Vervain
Viola labradorica	Labrador Violet



FIGURE 6.27 Photo of Blue Flag Iris flower



FIGURE 6.28 Photo of Red-osier dogwood stems



FIGURE 6.29 Photo of Switch grass along side New England asters



Sec. 6.5 Plant Palette Streetscapes

6.5.1 Streetscape and the Urban Forest

An urban forest is the collection of trees that grow within a city. An urban forest provides many ecological as well as economical benefits to its citizens including moderating the local climate, slowing stormwater, and shading homes and businesses to reduce energy consumption. Street trees and streetscape planting are a large component of Pittsburgh’s urban forest and as such will be the hardiest materials on our urban plant list. These plants are low maintenance, salt and pollution tolerant, and offer a variety of forms, textures, and colors providing interest for pedestrian traffic. Often a variety of tree species will be planted along a street in order to strengthen the urban forest of Pittsburgh.

The Understory Trees: Group A category applies to most plantings under utility lines. This is necessary to consider because most lines are less than 25 feet above ground. Where possible, trees should be offset so that they are not directly under the wires.

The Understory Trees: Group B applies only to utility plantings where the bottom wire is over 25 feet above the ground. Where possible, these trees should also be offset so as not directly under the wires.

The shrubs, groundcovers, and perennials on this streetscape list are also known to be extremely tolerant of road salt and wind.

For additional information on protecting Pittsburgh’s urban forest, contact: [www.treepittsburgh.org](http://www.treepittsburgh.org)

SCIENTIFIC NAME	COMMON NAME
UNDERSTORY TREES: GROUP A	
Acer ginnala	Amur Maple
Acer tataricum	Tatarian Maple
Crateagus laevigata ‘Superba’	Crimson Cloud Hawthorn
Magnolia stellata	Star Magnolia
Malus floribunda	Japanese Flowering Crabapple
UNDERSTORY TREES: GROUP B	
Acer campestre	Hedge Maple
Acer griseum	Paperbark Maple
Amelanchier laevis ‘Majestic’	Apple Serviceberry
Carpinus caroliniana	American Hornbeam
Cercic candensis	Eastern Redbud
Koelreuteria paniculata	Goldenrain Tree
Prunus serrulata	Flowering Cherry
SHRUBS AND GROUNDCOVERS	
Arctostaphylos uva-ursi	Bearberry
Aronia spp.	Chokeberry
Cornus racemosa	Gray Dogwood
Cotoneaster divaricatus	Spreading Cotoneaster
Cotoneaster horizontalis	Rock Cotoneaster
Hibiscus syriacus	Rose-of-Sharon
Hydrangea spp.	Hydrangea
Hypericum spp.	St. Johnswort
Ilex verticillata	Winterberry
Myrica pensylvanica	Bayberry
Philadelphus spp.	Mockorange
Potentilla fruticosa	Potentilla
Ribes alpinum	Alpine Currant
Rosa rugosa	Salt spray Rose
Symphoricarpos spp.	Snowberry or Coralberry
Syringa spp.	Lilac
Vaccinium spp.	Blueberry /Cranberry
Viburnum dentatum	Arrowwood

SCIENTIFIC NAME	COMMON NAME
PERENNIALS	
Artemisia x ‘Powis Castle’	‘Powis Castle’ Artemisia
Artemisia schmidtiana	‘Silver Mound’ Silver Mound Artemisia
Calamagrostis acutiflora	‘Karl Foerster’ ‘Karl Foerster’ Reed Grass
Dianthus gratianopolitanus	Cheddar Pink
Festuca ovina glauca	Blue Fescue Grass
Helleborus orientalis	Lenten Rose
Hemerocallis spp.	Daylily
Hosta spp.	Hosta
Iberis sempervirens	Candytuft
Limonium latifolium	Sea Lavender
Liriope spicata	Lilyturf
Pennisetum alopecuroides	Fountain Grass
Sedum spectabile ‘Autumn Joy’	Sedum ‘Autumn Joy’
Schizachyrium scoparium	Little Bluestem
Yucca filamentosa	Adam’s-needle Yucca



FIGURE 6.31 Photo of Eastern Redbud flower



FIGURE 6.32 Photo of Bayberry shrub



FIGURE 6.30 Photo showing thriving streetscape plantings in East Liberty



FIGURE 6.33 Photo showing intensive Green Roof planting featuring native grasses and perennials.



Sec. 6.6 Landscape Standards: Frontages

The landscape of the public realm of the Lower Hill Site Redevelopment includes open spaces, streetscapes with street trees and planting pits, and the private front yard of commercial and residential buildings. These private front spaces are defined on the following pages and should consider both hardscape and softscape materials during design.

Developers are encouraged to use locally sourced hardscape materials when introducing paving and walls or fences in walkways or at grade terraces or courts. Additionally, the use of native plants is required and the reduction of lawn areas is encouraged. Developers and owners are required to capture stormwater. Refer to Section 7.2 Stormwater Systems Integration.



FIGURE 6.34 Typical commercial/residential frontage showing a recessed entry and walled garden beyond



FIGURE 6.35 Typical commercial/residential frontage showing a recessed, covered entry and garden planting



FIGURE 6.36 Typical commercial/residential frontage showing a recessed entry and with planters

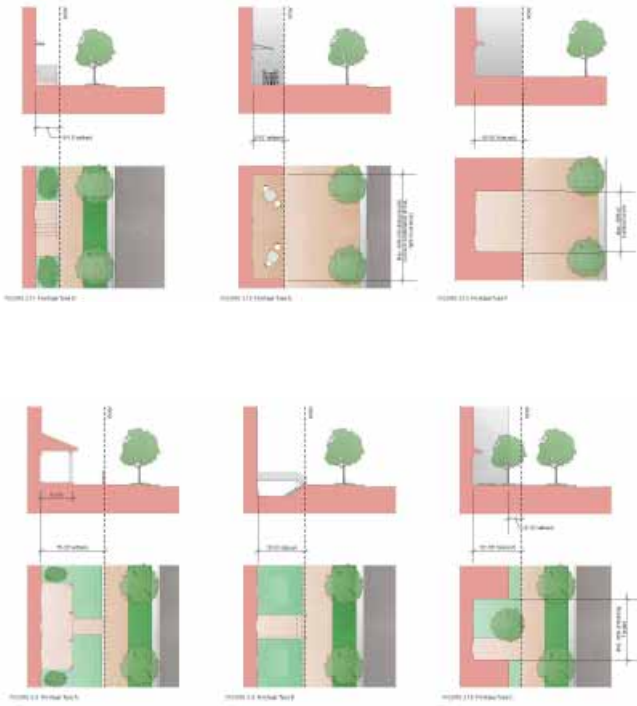


FIGURE 6.37 Typical residential frontage showing planting beds with fencing at edge of walks



FIGURE 6.38 Typical commercial/residential frontage showing recessed entry and covered outdoor seating. Overhang extends to setback line and helps building maintain the sidewalk edge.



# Sec. 6.7 Residential Landscape Requirements

## 6.7.1 Porch and Fence and Terrace or Light Court

Residential frontages shall meet the following landscape criteria:

- » Walls, hedges, or fences shall be maximum 48 inches high (no chain link) with an 18-inch planting strip between the property line and the walk. Materials shall be compatible with the architecture of the building.
- » Use rich, locally sourced paving materials (preferably permeable pavers, decorative stone, or concrete unit pavers) on walkways and sidewalks.
- » On corner parcels, extend a hedge, fence, or wall along the side property line from the main body of the building to the garage or rear property line.
- » A minimum of 2 canopy or understory trees required per 40 linear feet.
- » A minimum of 50% of the softscape areas shall be planted. 50% of which shall be deciduous or evergreen shrubs with the remainder a mixture of groundcovers and perennials.

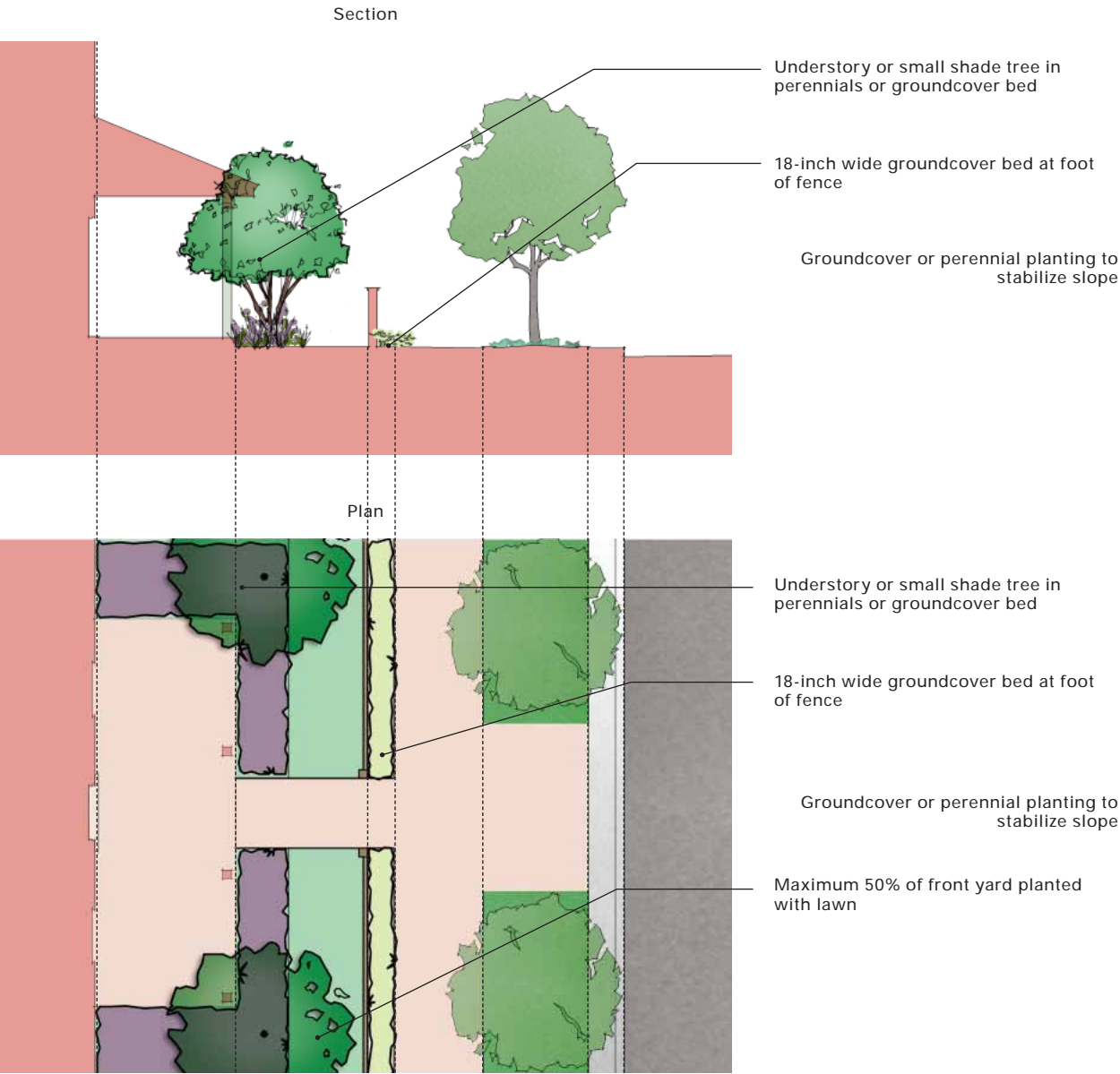


FIGURE 6.39 Typical residential frontage with fence showing proposed planting in plan and elevation

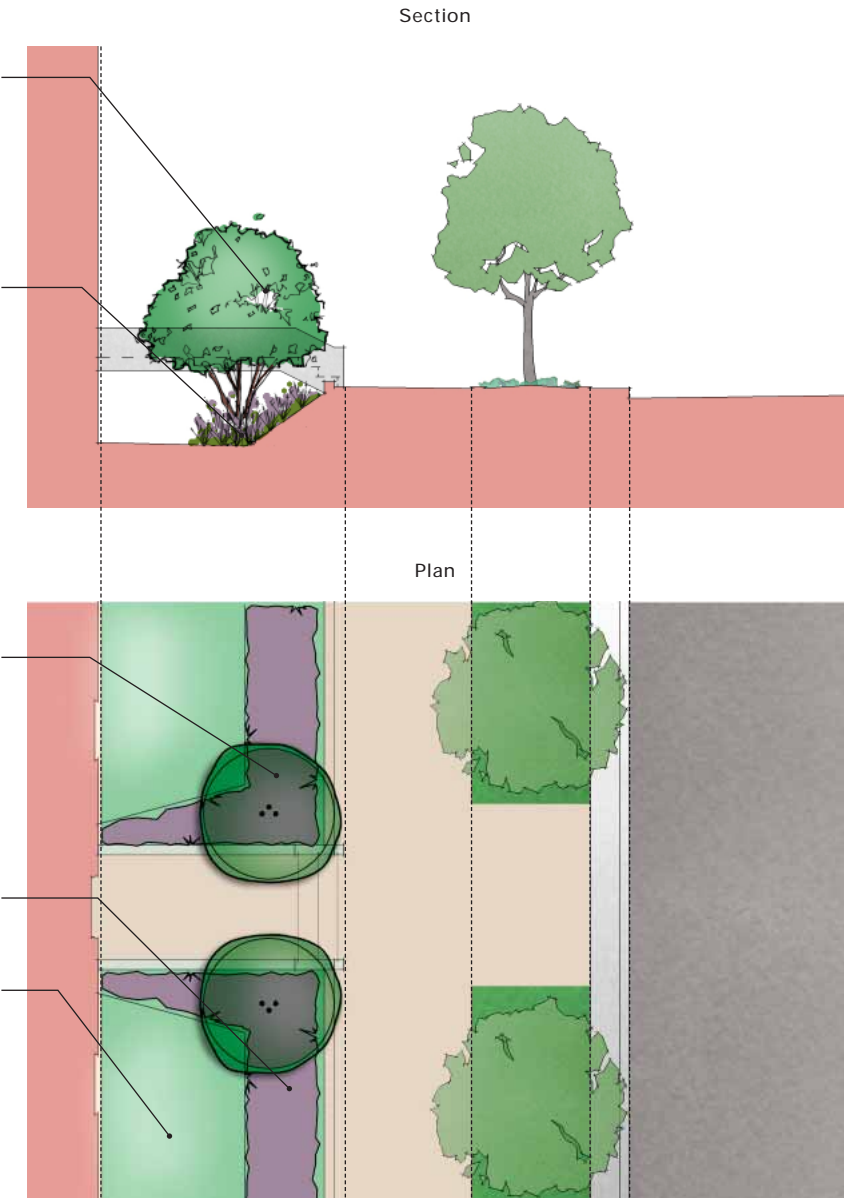


FIGURE 6.40 Typical residential frontage with light court showing proposed planting in plan and elevation



6.7.2 Forecourt and Stoop

Residential frontages shall meet the following landscape criteria:

- » Walls, hedges or fences shall be max 48 inches high (no chain link) with an 18-inch planting strip between the property line and the walk. Materials shall be compatible with the architecture of the building.
- » Where space and setbacks allow, the use of walls or fences for private gardens and courts shall be a maximum of 72 inches high with 40% transparency.
- » Rich, locally sourced paving materials (preferably permeable pavers, decorative stone, or concrete unit pavers) shall be used on walkways and sidewalks.
- » On corner parcels, a hedge, fence, or wall along the side property line shall extend from the main body of the building to the garage or rear property line.
- » A minimum of 2 canopy or understory trees shall be required per 40 linear feet.
- » A minimum of 50% of the softscape areas shall be planted. 50% of which shall be deciduous or evergreen shrubs with the remainder a mixture of groundcovers and perennials.

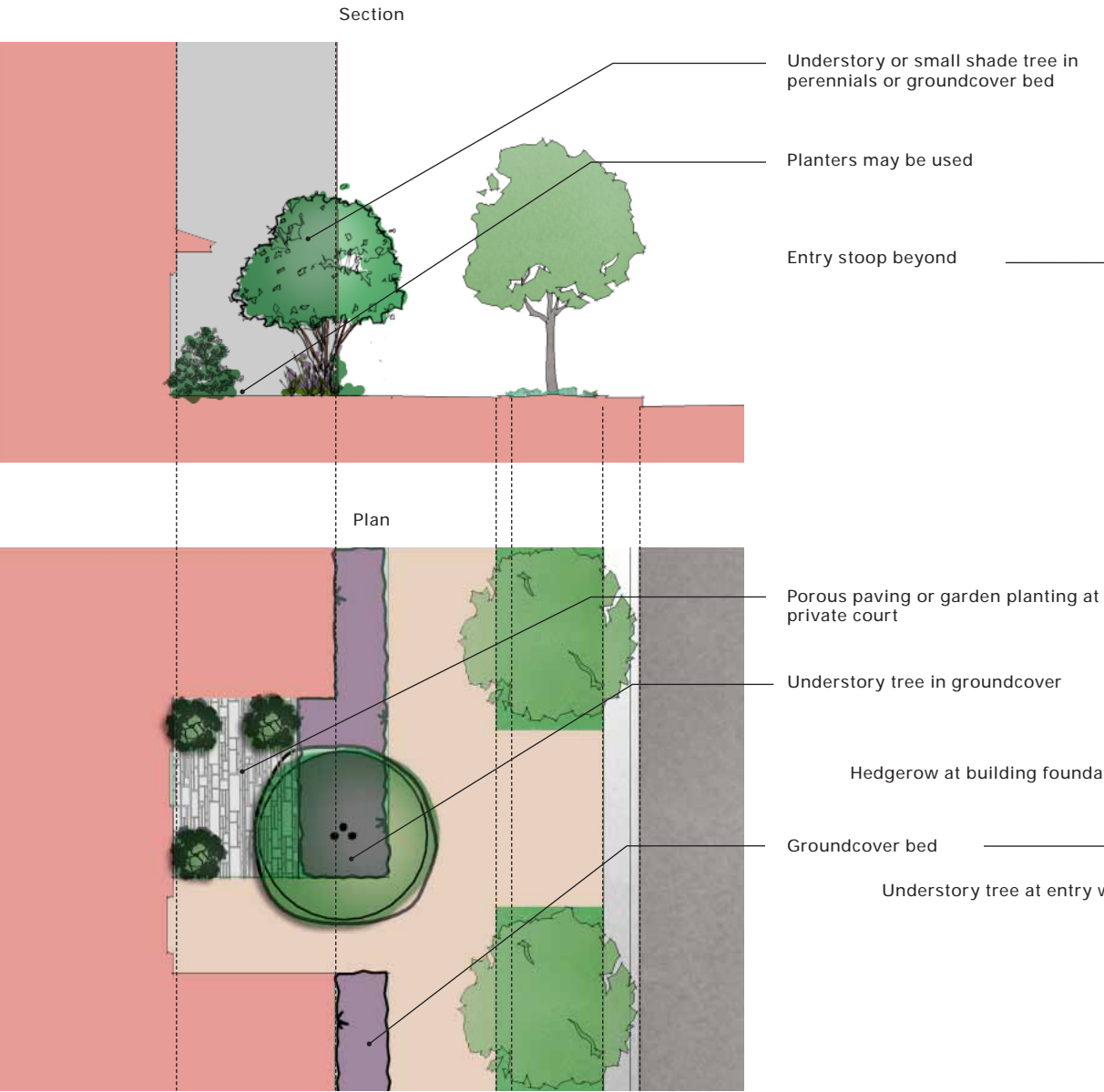


FIGURE 6.41 Typical residential frontage with forecourt showing proposed planting in plan and elevation

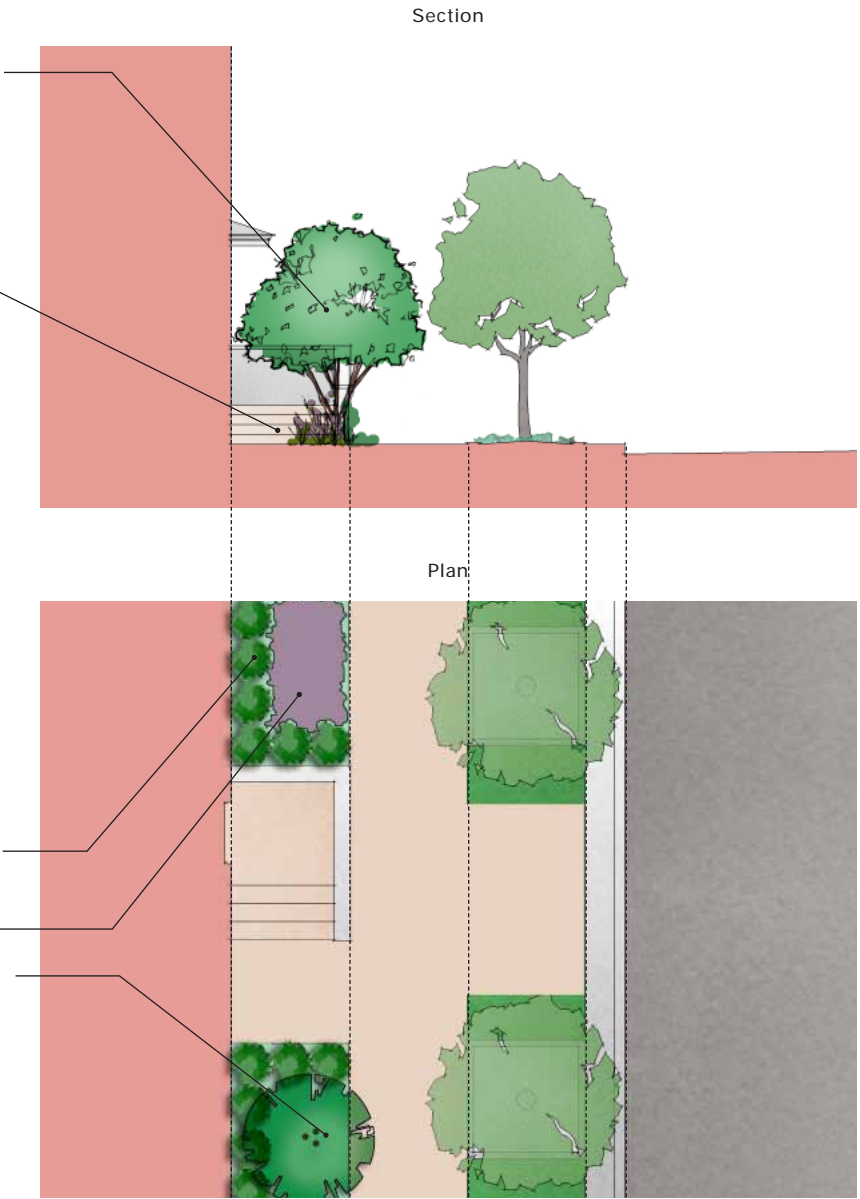


FIGURE 6.42 Typical residential frontage with stoop showing proposed planting in plan and elevation

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# Sec. 6.8 Commercial Landscape Requirements

## 6.8.1 At-Grade Terrace and Forecourt

Commercial frontages shall meet the following landscape criteria:

- » Walls, hedges, or fences shall be maximum 48 inches high (no chain link). Materials shall be compatible with the architecture of the building.
- » Where space and setbacks allow, the use of walls or fences for private gardens and courts shall be a maximum of 72 inches high with 40% transparency.
- » Rich, locally sourced paving materials (preferably permeable pavers, decorative stone, or concrete unit pavers) shall be used on walkways and sidewalks.
- » On corner parcels, a hedge/planters, fence, or wall along the side property line shall extend from the main body of the building to the rear property line in order to hold the corner.
- » If space permits, 50% of the plant material shall be deciduous or ever-green trees and shrubs with the remainder a mixture of groundcovers and perennials.
- » At grade terraces shall be defined by planters, walls, fences, or other vertical structure to define the private/public realm.

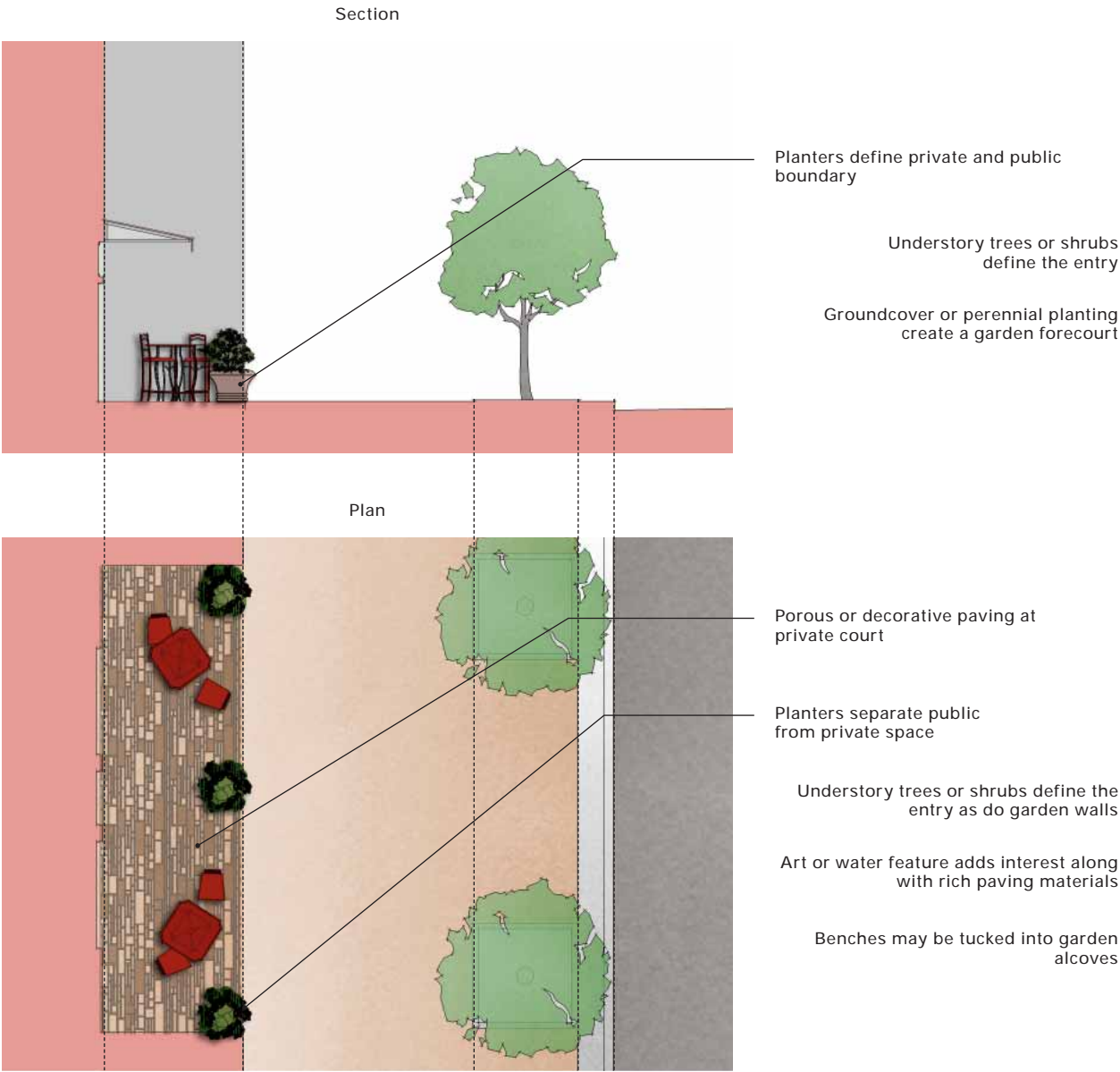


FIGURE 6.43 Typical commercial frontage with at grade terrace showing proposed planting in plan and elevation

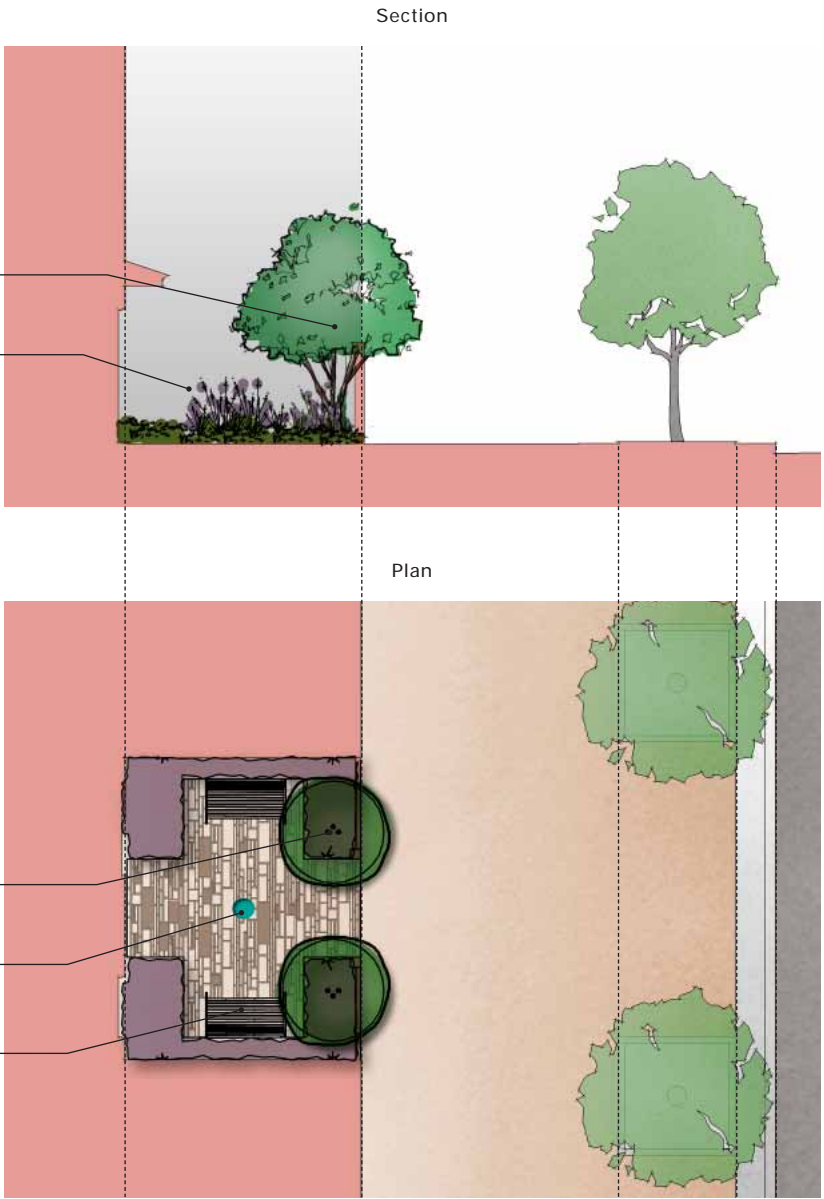


FIGURE 6.44 Typical commercial frontage with forecourt showing proposed planting in plan and elevation

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Sec. 6.9 Landscape Standards:  
Green Roofs

In the Lower Hill Site Redevelopment, buildings are encouraged to incorporate Green Roofs into their design as one method to achieve LEED-ND and stormwater requirements. Numerous benefits can result from the adoption of Green Roof technologies including the recovery of green space, moderation of the urban heat island effect, improved stormwater management, water and air purification, and a reduction in energy consumption. A major benefit of Green Roofs is their ability to absorb stormwater and release it slowly over a period of several hours. Green roof systems are shown to retain 60–100% of the stormwater they receive. In addition, Green Roofs have a longer lifespan than standard roofs because they are protected from ultraviolet radiation and the extreme fluctuations in temperature that cause roof membranes to deteriorate.

While Green Roofs provide additional usable open space for city dwellers, if planted with appropriate material, they also provide habitats for a variety of bird, butterfly, and insect species. Green Roofs are encouraged on all covered areas including parking structures, commercial and residential units, as well as, bus shelters and small pavilions.



FIGURE 6.45 A class meeting on a Green Roof. Green Roofs provide additional usable outdoor space within the urban fabric.



FIGURE 6.47 Detail photos showing extensive plantings on the left versus intensive plantings requiring more soil depth on the right.



FIGURE 6.46 A Green Roof open space with a promenade, native plantings, and seating.



FIGURE 6.48 Native perennial planting on the Allegheny County Office building’s Green Roof provide visitors with an unexpected garden.



# Section 7. Systems and Networks Integration

Sec. 7.1 Introduction 75

Sec. 7.2 Stormwater Systems Integration 76

Sec. 7.3 Energy District and Private Utility Systems Integration 78

Sec. 7.4 Shared Parking Network Strategies 79

Sec. 7.5 Transit and Bicycle Network Connections 80

Sec. 7.6 Transportation Demand Management 81

SUSTAINABILITY GOALS

- » Improve stormwater management by including sub-surface infiltration and/or rainwater harvesting without allowing any offsite discharge
- » Implement localized or centralized techniques, including Green Roofs, porous pavement, amended soils, and infiltration practices
- » Implement sustainable street techniques on public streetscapes, including stormwater planters and porous parking strips with sub-surface recharge beds
- » Implemented regional stormwater facilities at the public parks to manage stormwater runoff from the public streets
- » Reuse rainwater for irrigation or ornamental water features or other non-potable water uses, such as toilet flushing or cooling tower makeup
- » Provide bicycle parking that is incorporated throughout the development
- » Implement shared parking strategies, vehicle sharing programs, and shuttle services

APPLICABLE LEED-ND POINTS (2009 Standards)

- SLL Credit 3 — Locations with Reduced Automobile Dependence
- SLL Credit 4 — Bicycle Network and Storage
- NPD Credit 5 — Reduced Parking Footprint
- NPD Credit 7 — Transit Facilities
- NPD Credit 8 — Transportation Demand Management
- GIB Credit 8 — Stormwater Management
- GIB Credit 11 — On-Site Renewable Energy Sources
- GIB Credit 12 — District Heating and Cooling
- GIB Credit 13 — Infrastructure Energy Efficiency
- GIB Credit 14 — Wastewater Management
- GIB Credit 15 — Recycled Content in Infrastructure
- GIB Credit 16 — Solid Waste Management Infrastructure



Sec. 7.1 Introduction

The Lower Hill Site Redevelopment, though it may be developed by various entities, must have a cohesive strategy of integration for several key systems and networks. These include the following:

- » Stormwater Systems Integration
- » Energy Systems Integration and Utility Systems Integration
- » Shared Parking Strategies
- » Transit Strategies

Adopting a cohesive strategy for these elements will yield the maximum benefit for future occupants, developers, and the City. These systems tend to gain in efficiency as a greater land area is considered, therefore it is recommended that developers consider a comprehensive approach to addressing these issues.



FIGURE 7.49 Stormwater Systems Integration



FIGURE 7.50 Energy Systems Integration and Utility Systems Integration



FIGURE 7.51 Shared Parking Strategies



FIGURE 7.52 Transit Strategies



## Sec. 7.2 Stormwater Systems Integration

The responsible management of water is a critical component of any sustainable neighborhood. In particular, stormwater runoff is a critical local environmental issue for the City of Pittsburgh. The Lower Hill Site Redevelopment is located in a combined sewer district. During wet weather, stormwater runoff discharged to the combined sewer system contributes to untreated sewage overflows to local rivers and streams, which are also the source of the region's drinking water supply. The aggressive management of stormwater runoff is a major priority for the Lower Hill Site Redevelopment.

The USGBC's LEED for Neighborhood Design Rating System recommends an aggressive approach to managing stormwater runoff. The Stormwater Management credit requires implementing a stormwater management plan for the entire development footprint that "retains on-site, through infiltration, evapotranspiration, and/or reuse the rainfall volumes generated from the 80th, 85th, 90th, 95th percentile rainfall depths (1–4 points)." Based on the historic rainfall data (published by NOAA for Pittsburgh, PA between 1980 and 2010), the 80th, 85th, 90th, and 95th percentile storm depths are 0.6-inches, 0.75-inches, 0.9 inches, and 1.2-inches, respectively.

The City of Pittsburgh Stormwater Ordinance similarly requires publicly funded development/re-development projects exceeding minimum thresholds to "infiltrate, Evapo-transpire, and/or harvest for reuse (in priority of order) without allowing any offsite discharge, the precipitation from all rainfall events less than or equal to the 95th percentile"...to the "maximum extent technically feasible."

The average annual rainfall depth in Pittsburgh is approximately 38-inches (for the period of record 1980–2010) per year. This equates to an average annual volume of rainfall equal to 31.3 million gallons over the development footprint (approximately 30-acres). The existing civic arena land cover condition is highly impervious (approximately 83 percent impervious), thus generating approximately 26 million gallons of stormwater runoff annually.

In order to align with the stormwater management recommendations of the LEED-ND Rating System and the City's Ordinance, low impact development and green infrastructure techniques will need to be implemented to retain and infiltrate, evapo-transpire, and reuse rainwater — in lieu of allowing it to run off. If the entire development area retains a 1.2-inch storm event- and annual-basis. Retaining up to the 1.2-inch rainfall depth on site would reduce the annual stormwater runoff volume to approximately 5.3 million gallons (a reduction of approximately 20.7 million gallons, or 80%, from the current 26 million).



FIGURE 7.53 Above-ground retention



FIGURE 7.55 Stormwater wetlands in bloom. Variety of textures and colors provide visual interest for the pedestrian realm.

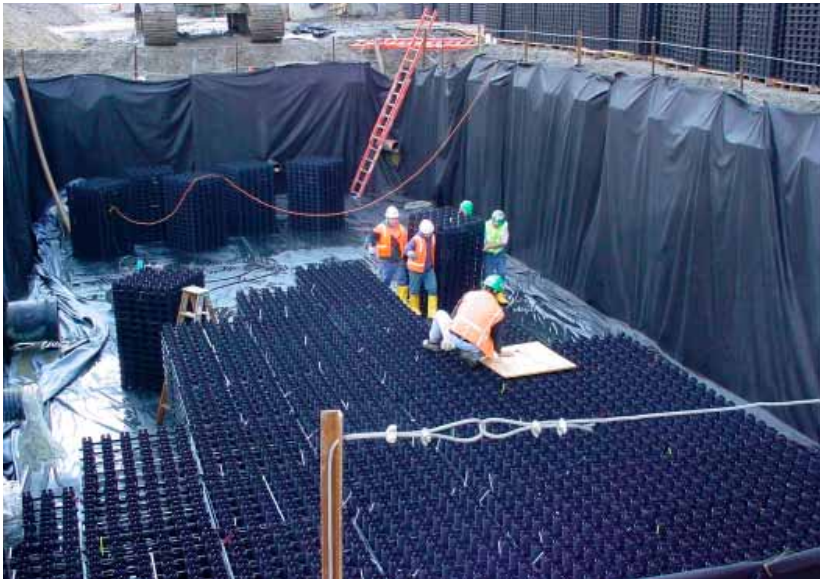


FIGURE 7.54 Below-ground retention



FIGURE 7.56 Passive stormwater retention occurs at this recessed lawn where rain can gradually infiltrate



In order to retain the 1.2-inch rainfall depth, a green infrastructure approach is needed to be applied to the entire redevelopment, including the development parcels, the rights-of-way, and the areas of urban open space. The following approach is recommended:

- » Each development block implements an array of localized or centralized techniques, including Green Roofs, porous pavement, amended soils, infiltration practices, and rainwater harvesting, to retain on-site and infiltrate, evapotranspire, and reuse all rainfall depths up to the 1.2-inch depth.
- » Public streetscapes (with slope of less than 5%) implement sustainable street techniques, may include stormwater planters and porous parking strips with sub-surface recharge beds, to treat and retain the maximum volume of stormwater feasible. Excess stormwater generated from up to the 1.2-inch rainfall depth should be conveyed to the public parks.
- » Public streetscapes (with slopes greater than 5%) should address pre-treatment and convey stormwater runoff to regional stormwater management facilities at the open space.
- » Regional stormwater facilities should be implemented at the urban open space to manage stormwater runoff from the public streets. The stormwater management techniques may include sub-surface infiltration and/or rainwater harvesting. The regional facility should be sized to retain and infiltrate or reuse the volume of stormwater generated from the streets (including any excess from the sustainable streets) for up to the 1.2-inch rainfall. Harvested rainwater may be reused for irrigation or ornamental water features or other non-potable water uses, such as toilet flushing or cooling tower makeup.



FIGURE 7.57 Above-ground retention



FIGURE 7.58 Above-ground retention



FIGURE 7.59 Above-ground retention



FIGURE 7.60 Above-ground retention

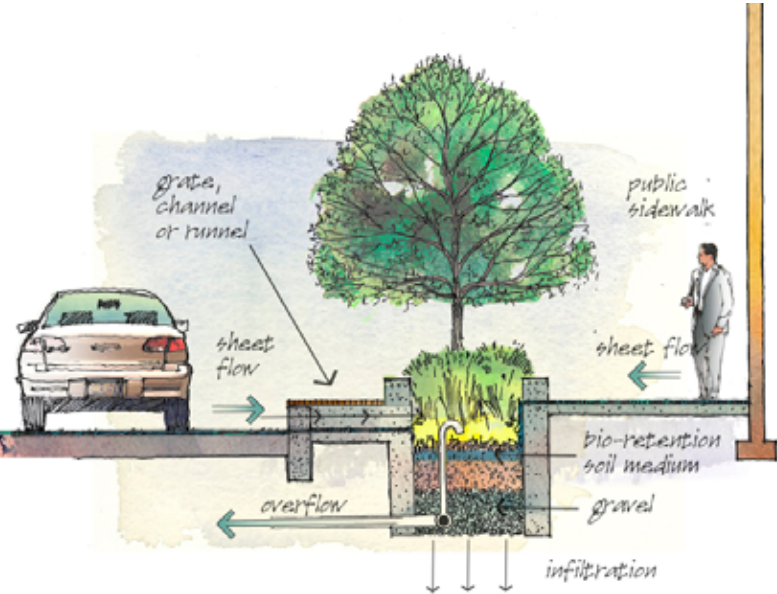


FIGURE 7.61 Above-ground retention



# Sec. 7.3 Energy District and Private Utility Systems Integration

The efficient use of energy for lighting, power, and heating and cooling is a major component of sustainable design, both for individual buildings and for multi-use developments like the 28-acre redevelopment site. Sustainability standards are available for individual buildings, such as LEED certifications, and for development sites, such as LEED-ND. These current standards from the U.S. Green Building Council are baseline guidelines for the project.

The goal, however, is to raise the bar by employing leading edge technology and practices that are financially feasible and physically implementable. Examples of advanced technology being considered include co-generation, combined heat and power, bio-mass, geo-exchange, and solar. These can be utilized at the building scale and at the broader site development scale. Performance data gathering and reporting would be conducted in support and advancement of the Pittsburgh 2030 District initiative.

At the site development scale, other options are available, such as the creation of a central co-generation plant that would supply heating and cooling to individual buildings, thus eliminating the need for large mechanical rooms and equipment in each building. Excess electric energy from the cogeneration plant could be sold back to the regional electric grid.

The financial feasibility of a central plant and central energy district will be dependent upon the mix of uses, the phasing of the development, the location of the central plant, the availability of off-premise loads and the willingness of third-party vendors to build and operate the central plant and distribution network. In order to keep the energy district option open, provision should be made up front in the development of the street infrastructure to provide utility pathways for future installation of below ground pipes to carry chilled and hot water to individual blocks and buildings.

STAND ALONE BUILDING SYSTEMS



FIGURE 7.62 Energy Diagram Dependant on Individual Building Systems

DISTRICT ENERGY SYSTEM

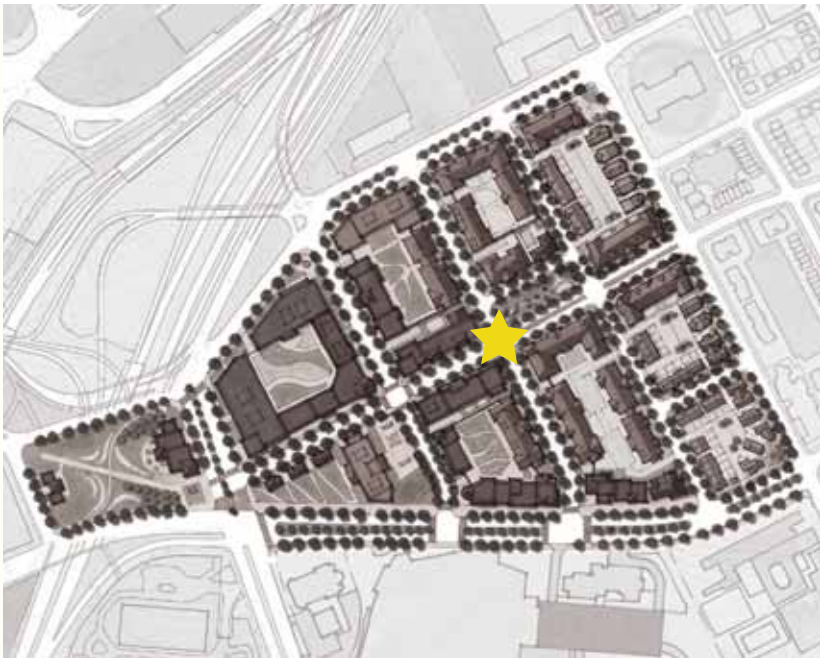


FIGURE 7.63 Energy Diagram Dependant on a Central System



## Sec. 7.4 Shared Parking Network

### 7.4.1 StrategiesParking Metrics

A parking analysis was conducted for future 2022 conditions with all the proposed Illustrative Master Plan developments in place (see next section for more information). The required number of spaces for each proposed Master Plan development component is estimated as follows:

- » Residential: 1 space per dwelling unit
- » Retail: 1 space per 500 square feet above the first 2,400 square feet
- » Office: 1 space per 500 square feet above the first 2,400 square feet
- » Cineplex: 1 space per 5 seats
- » Hotel: 0.62 space per room

The parking demand rate for the hotel was calculated based on data provided for the Shadyside Courtyard Marriott and also approved for the One Grandview Center Hotel Study.

### 7.4.2 Parking Reductions

A reduction in the number of off-street parking spaces may be applied provided bicycle parking is incorporated within the development. The bicycle parking code (section 914.05 of the Pittsburgh Zoning Ordinance) indicates that the reduction in the number of off-street parking spaces shall be reduced by no more than thirty (30) percent of the total required spaces, excluding spaces for persons with disabilities. It should be noted that bicycle parking for hotels is based on the number of employees. Therefore, for this study it was assumed that the hotel could potentially have a staff of 21 to 80 employees, which would require two bicycle spaces.

The reduction for transit is imbedded in the overall multimodal parking demand reduction taken for office and Cineplex uses, based on the recently completed Pittsburgh Downtown Partnership Travel Mode Survey. This parking demand reduction reflects the use of public transit, walking, and bicycling and is applicable to weekday daytime parking demand. The overall parking reduction based on use of modes other than private cars for Office and Cineplex use is 50%.

In addition, during evenings and weekends, shared use of parking used by day for Office, Cineplex and Retail is assumed to be used for Cineplex, Retail and Event usage, such as for CONSOL Energy Center event parking. It should be noted that on-street parking is not to be included within the shared parking reservoir.

### 7.4.3 Tested Parking Requirements

In order to run a parking requirements model, the development program that is presented in Section 9: Illustrative Master Plan was used as a basis. This development program is thought to be a reasonable, high density illustration of what may be developed and therefore was used as the parking design test case. The development program and resulting parking demand can be found in the chart at right.

### 7.4.4 Shared Parking Network Strategies

A shared parking strategy will be needed to make the most of the off-street parking supply within the Lower Hill Site Redevelopment. The scenario presented here assumes that one space is dedicated to each residential unit, but that every other space (Retail, Office, Cineplex, Hotel) should be considered for a shared parking pool based on peak demand by each respective use.

The most efficient system would treat all non-residential, off-street parking, whether in lots, podiums, or garages, as one shared pool. In this case, it is recommended that a maximum of 10% of a particular use's parking requirements be reserved and not part of the shared pool, with the possible exception of hotel parking, where 50% of the parking requirements should be considered to be reserved. This system would need a comprehensive parking strategy that is phased and managed appropriately over time, with periodic reviews of actual parking usage and adjustments made to reserved parking and sharing arrangements as necessary.

Other parking strategies could involve a shared parking approach by development block or by ownership boundaries. However, these would be a much less efficient system providing fewer reductions in the overall parking requirements.

Block	Number of Parking Spaces Provided (Excluding CONSOL Garage)	Development Component	Size <sup>(2)</sup>	Parking Demand: City of Pittsburgh Zoning Code <sup>(1)</sup>					Unassigned Spaces Available for	
				Parking Demand Rate	Total Automobile Parking (Includes Spaces for Persons with Disabilities)	Number of Spaces to be Provided for Persons with Disabilities <sup>(3)</sup>	Potential Multi-Modal Parking Reduction <sup>(4)(5)</sup>	Required Number of Parking Spaces with Maximum Bicycle Parking Reduction <sup>(6)</sup>	Daytime <sup>(8)</sup>	Evening/Weekend Events <sup>(9)</sup>
A <small>OLD A &amp; B</small>	365	Residential	344 units	1 per unit	344	8	101	243	0	0
		Retail	13,390 SF	1 per 500 SF above first 2,400 SF	17	1	5	12		
		<b>Subtotal, A</b>	-- --	--	<b>361</b>	<b>9</b>	<b>106</b>	<b>255</b>		
		Residential	224 units	1 per unit	224	7	65	159		
B <small>OLD D</small>	247	Retail	10,910 SF	1 per 500 SF above first 2,400 SF	13	1	4	9	79	79
		<b>Subtotal, B</b>	-- --	--	<b>237</b>	<b>8</b>	<b>69</b>	<b>168</b>		
		Residential	357 units	1 per unit	357	8	105	252		
C <small>OLD C &amp; E</small>	360	Residential	357 units	1 per unit	357	8	105	252	0	0
D <small>OLD F</small>	305	Residential	142 units	1 per unit	142	5	41	101	66	150
		Retail	42,200 SF	1 per 500 SF above first 2,400 SF	63	3	18	45		
		Office	116,000 SF	1 per 500 SF above first 2,400 SF	181	6	88	93		
		<b>Subtotal, D</b>	-- --	--	<b>386</b>	<b>14</b>	<b>147</b>	<b>239</b>		
E <small>OLD G</small>	480	Residential	125 units	1 per unit	125	5	36	89	210	369
		Retail	14,415 SF	1 per 500 SF above first 2,400 SF	18	1	5	13		
		Office	108,370 SF	1 per 500 SF above first 2,400 SF	169	6	82	87		
		<b>Subtotal, E</b>	-- --	--	<b>312</b>	<b>12</b>	<b>123</b>	<b>189</b>		
F <small>OLD H</small>	0	Retail	24,350 SF	1 per 500 SF above first 2,400 SF	34	2	10	24	0	0
		Cineplex	2,310 seats	1 per 5 seats	462	9	227	235		
		<b>Subtotal, F</b>	-- --	--	<b>496</b>	<b>11</b>	<b>237</b>	<b>259</b>		
G <small>OLD I</small>	700	Retail	89,836 SF	1 per 500 SF above first 2,400 SF	139	5	40	99	0	216
		Office	407,592 SF	1 per 500 SF above first 2,400 SF	647	13	317	330		
		Hotel <sup>(7)</sup>	150 rooms	0.62 spaces per room	93	4	2	91		
		<b>Subtotal, G</b>	-- --	--	<b>879</b>	<b>18</b>	<b>359</b>	<b>520</b>		
H <small>OLD J</small>	0	Retail	5,000 SF	1 per 500 SF above first 2,400 SF	3	1	1	2	0	0
<b>Total</b>	<b>2,457</b>	<b>--</b>	<b>-- --</b>	<b>--</b>	<b>3,031</b>	<b>81</b>	<b>1,147</b>	<b>1,884</b>	<b>355</b>	<b>814</b>

(1) Based on the City of Pittsburgh Urban Zoning Code, Chapter 914: Parking Loading and Access.

(2) Based on section 914.03.C, Calculation of Floor Area, of the City of Pittsburgh Urban Zoning Code, the square footage of floor area utilized in the parking demand calculations is 80% of the total gross floor area for office and retail development components.

(3) Based on Section 914.06.A, Number of Spaces for Persons with Disabilities, of the City of Pittsburgh Urban Zoning Code.

(4) Based on Section 914.05.E, Off-Street Parking Reduction for Bicycle parking, the reduction in the number of automobile spaces shall be reduced by no more than 30% of the total required spaces, excluding parking spaces for persons with disabilities. In addition, parking reductions for hotel use are to be based upon the number of employees. For this study, it was assumed that the hotel would fall into the category of 21-80 employees, which requires 2 bicycle parking spaces.

(5) The multimodal parking reduction for the office and Cineplex uses was assumed to be 50% based on the Pittsburgh Downtown Partnership Travel Mode Survey.

(6) The required number of spaces was determined by subtracting the Potential Multi-Modal Parking Reduction from the Total Automobile Parking (including spaces for persons with disabilities).

(7) The parking demand rate for the hotel was calculated based on data provided for the Shadyside Courtyard Marriott Hotel and also approved for the One Grandview Center Hotel Study.

(8) See Table 2A for details.

(9) See Table 2B for details.

Source: Analysis by Trans Associates.

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## Sec. 7.5 Transit and Bicycle Network Connections

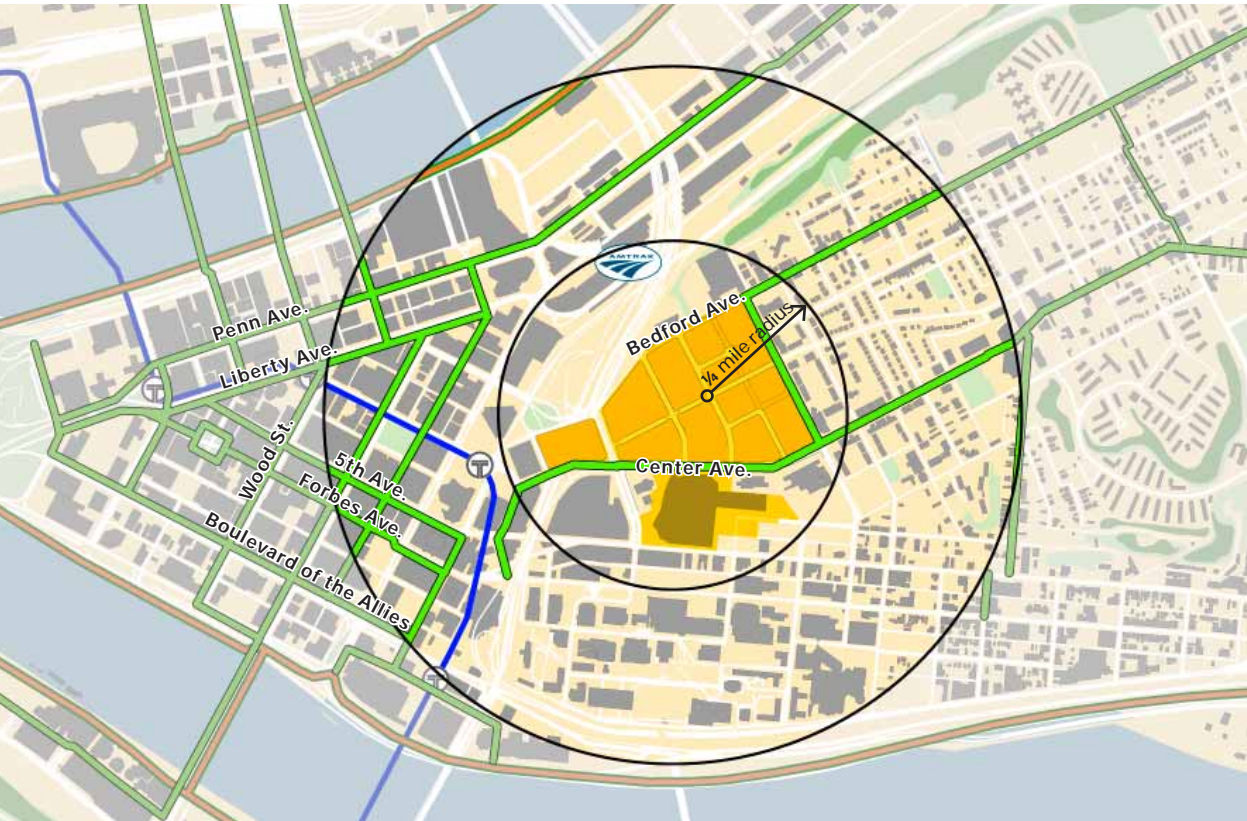
Critical to maximizing the walkability of the plan, is offering alternate modes of transport to the car. The site is ideally located along major bus routes and in walking distance from many Downtown amenities. In addition, an extensive system of bikeways, riverfront trails, and light rail are accessible within a ten minute walk. The diagrams below demonstrate the proximity to these alternate modes of transport.

In addition to the currently available public transit network, the Port Authority is presently engaged in a study of a Bus Rapid Transit (BRT) system to connect the Central Business District to Oakland. If implemented, the BRT service will provide an enhanced public transit connection opportunity from the Lower Hill Site Redevelopment to Oakland, the third-highest trip generator in the Commonwealth of Pennsylvania (behind only Philadelphia and Downtown Pittsburgh). This would significantly improve transit connections to the medical, university, cultural, and business community in Oakland.

In addition, the MOVE PGH study intends to recommend the creation of a transit district in Uptown, which could significantly increase premium transit service in the Centre Avenue corridor, to be implemented by others.

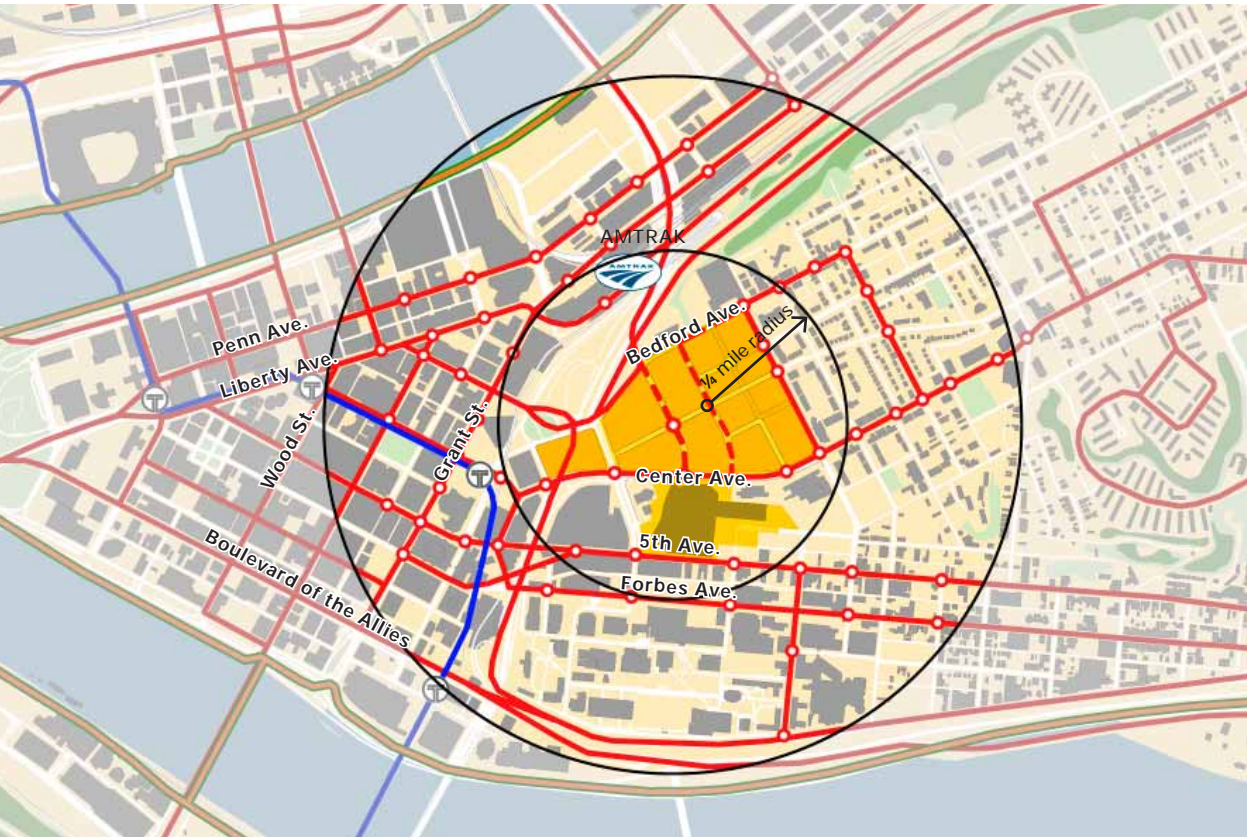
It should also be noted that there is presently public transit service between the Pittsburgh International Airport and both Downtown and Oakland. The possibility of additional service stop(s) in the Lower Hill Site Redevelopment could be investigated with the Port Authority.

Bicycle network connectivity throughout the City is the subject of the ongoing MOVEPGH study being performed under the direction of the City of Pittsburgh Department of City Planning. As part of the outcome of this study, additional bicycle facilities, and connections are anticipated, which will enhance bicycle connectivity to the Lower Hill Site Redevelopment and throughout the City. The exact details and locations of these bicycle amenities have not yet been determined.



ON STREET BIKE  
ROUTE (BIKE PGH1)  
TRAILS

FIGURE 7.64 Bikeway and Trail Systems



BUS ROUTE  
LIGHT RAIL ROUTE

FIGURE 7.65 Transit Systems



## Sec. 7.6 Transportation Demand Management

Options for travel demand management with a goal of 20% reduction in trips will be provided to users of the site for use in planning and development of their facilities. These measures could include:

- » **Parking cash out:** Commuters or residents who are eligible for a free parking space are also offered the cash equivalent when they use alternative transportation modes.
- » **Flextime:** The employer allows employees to work nontraditional hours to avoid driving during peak commute times.
- » **Ride sharing:** Commuters travel together in carpools or vanpools.
- » **Ride matching:** An organized system matches residents or workers to facilitate ride sharing. For example, rosters with contact information for those interested in ride sharing are established and regularly updated.
- » **Pedestrian and bicycle promotion:** A project can support and promote non-motorized transportation by providing preferred bicycle parking, showers, or reimbursement for employees' cycling or pedestrian mileage.
- » **Guaranteed ride home:** The employer offers an occasional subsidized ride — via taxi, company vehicle, or rental car — to carpoolers, cyclists, ride-share commuters, or transit users who miss a rider after working late, are commuting to an irregular location, or must tend to an emergency at home. Guaranteed ride home programs address a common objection to the use of alternative modes of transportation.
- » **Car-free programs:** Schools, campuses, office-buildings, civic facilities, or other large nonresidential facilities can establish policies that discourage or prohibit unnecessary driving.
- » **Transit passes:** Subsidized transit passes
- » **Vehicle sharing:** Vehicle sharing of a car rental in which users rent cars for a short period, often by the hour. It enables people to avoid the high fixed costs of car ownership while still having access to a car when needed. Zipcar® stations (a program already introduced in Pittsburgh) could be established within the Lower Hill Site Redevelopment.
- » **Bicycle sharing:** Bicycle sharing is a program where one pays for a subscription or by the hour to rent a bicycle for short, in-town trips. Rental stations would be located at key public destinations to allow for visibility and easy access. Bicycle sharing could serve to reduce vehicle use, and would be available at all hours of the day. This would need to be part of a city-wide program to be impactful. Locations for these facilities have not yet been determined, and will be part of the MovePGH process.



FIGURE 7.67 A Bicycle Sharing Program would be a network of rental stations allowing users to pick up a bicycle in one location and drop it off in another station nearby their final destination. One such station was recently installed at Bakery Square with another located at Carnegie Mellon University.



FIGURE 7.66 Vehicle Sharing stations should be easily accessible and can occur on-street (in a parallel parking space), in parking lots or in parking garages.



FIGURE 7.68 Ride Sharing Programs could be further promoted by offering preferential parking locations.



FIGURE 7.69 Car-Free Programs promote use of other modes of transit. BikePGH currently encourages the region's residents to reduce the number of single occupant car trips through Car Free Fridays which offer events and rewards for participants.



# Section 8. Transit and Pedestrian Improvements

Sec. 8.1 Introduction 83

Sec. 8.2 Bedford Avenue and Crawford Avenue 84

Sec. 8.3 Centre Avenue and Washington Place 85

Sec. 8.4 Intersection Pedestrian Amenities 87

Sec. 8.5 Traffic Signalization Improvements 88

## SUSTAINABILITY GOALS

- » Promote a walkable neighborhood by providing a safe, appealing and comfortable street environment, including continuous sidewalks, on-street parking or a planting strip between the sidewalk & the street as a buffer zone to enhance the sidewalk's walkability and streetscapes amenities, such as benches, street lights, bicycle racks
- » Reduce urban heat island effects by providing street trees
- » Implement sustainable street landscapes where grading permits to contribute to the reduction of stormwater runoff

## APPLICABLE LEED-ND POINTS (2009 Standards)

- NPD Pre 1 — Walkable Streets
- NPD Credit 1 — Walkable Streets: Design for Safe Pedestrian and Bicycle Travel
- NPD Credit 7 — Transit Facilities
- NPD Credit 14 — Tree-lined and Shaded Streets





Sec. 8.1 Introduction

This section is intended to provide recommendations for improvements to the perimeter streets and adjacent areas to the site as they have an important impact on the successful development of the Lower Hill Site Redevelopment.

The pedestrian connection between Downtown and the Lower Hill Site Redevelopment is vital to create a cohesive network and mend the divide currently existing where tangled highways tear through the fabric of the city. The Lower Hill Site Redevelopment, so closely located and with visible ties to the Downtown, is ideally situated to bridge the gap and reconnect the historic Fifth Avenue commercial, CONSOL Energy Center, university activities, and new development.



FIGURE 8.1 Perimeter Streets



Sec. 8.2 Bedford Avenue and Crawford Avenue

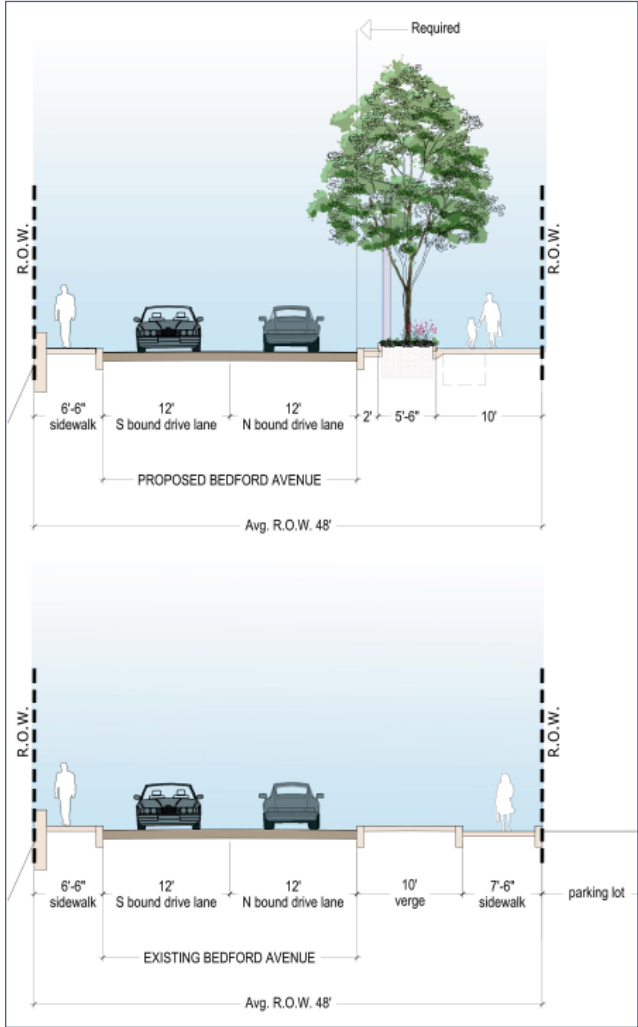


FIGURE 8.2 Bedford Avenue Section A-A'

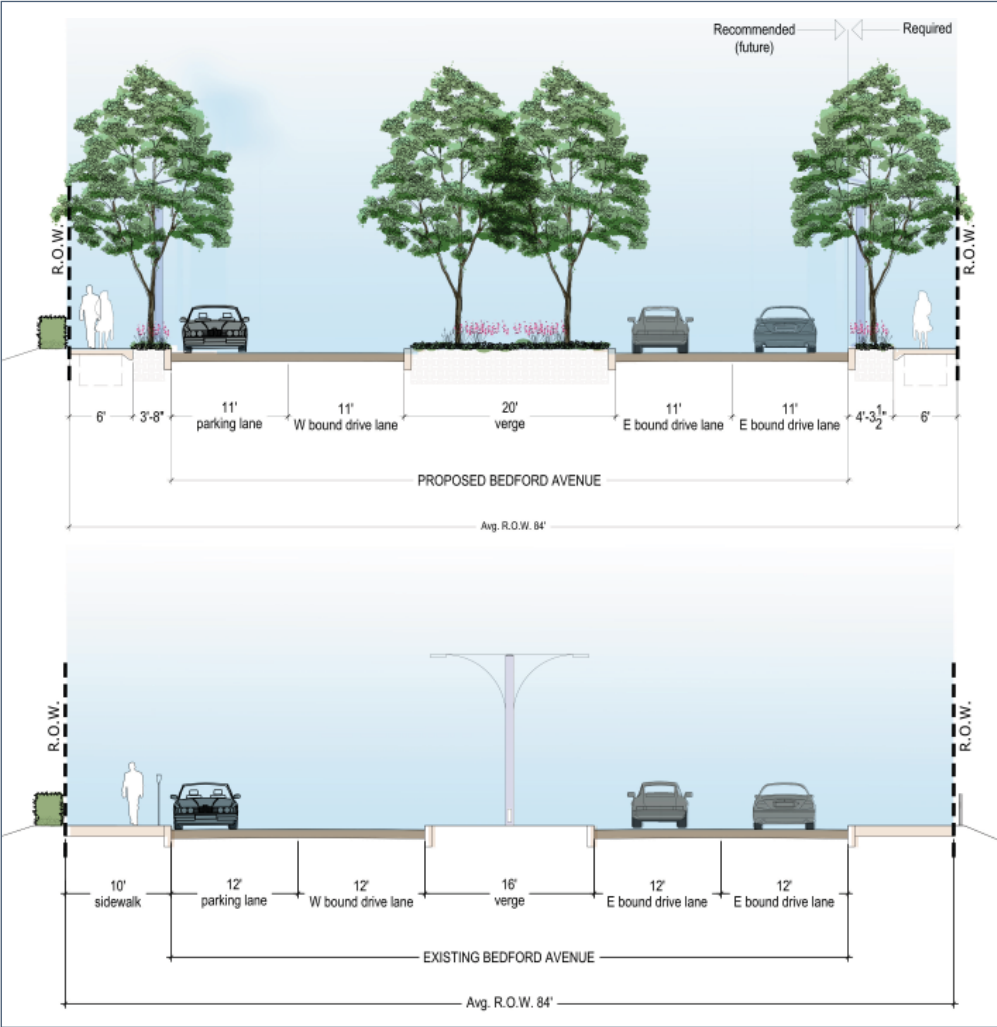


FIGURE 8.3 Bedford Avenue Section B-B'

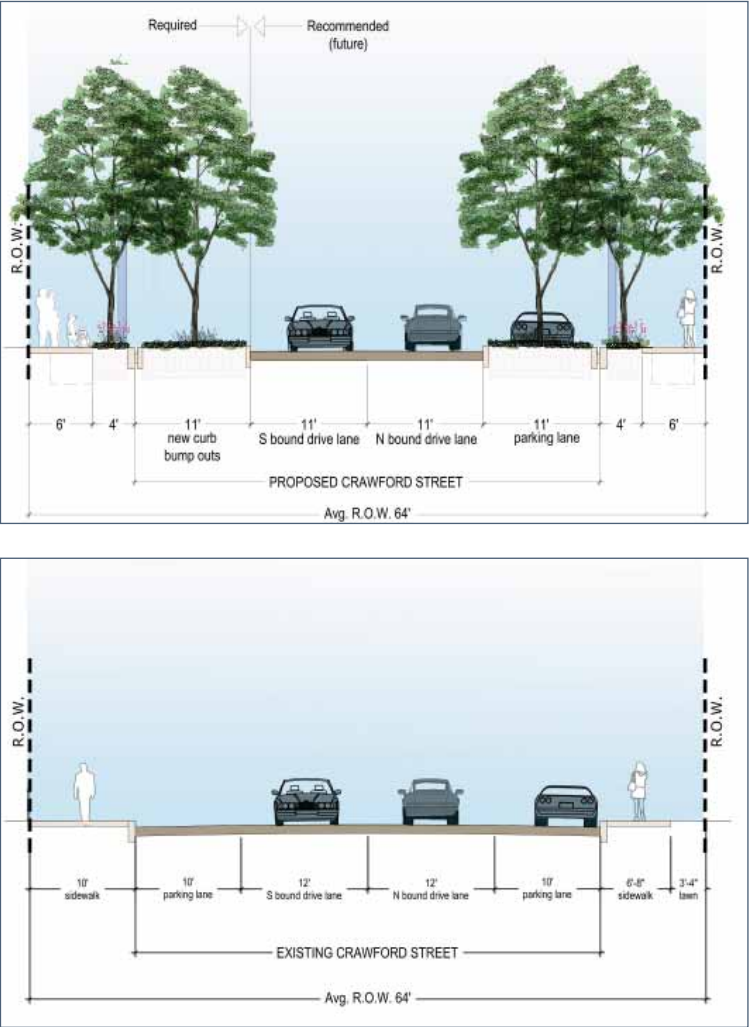


FIGURE 8.4 Crawford Street Section C-C'



Sec. 8.3 Centre Avenue and Washington Place

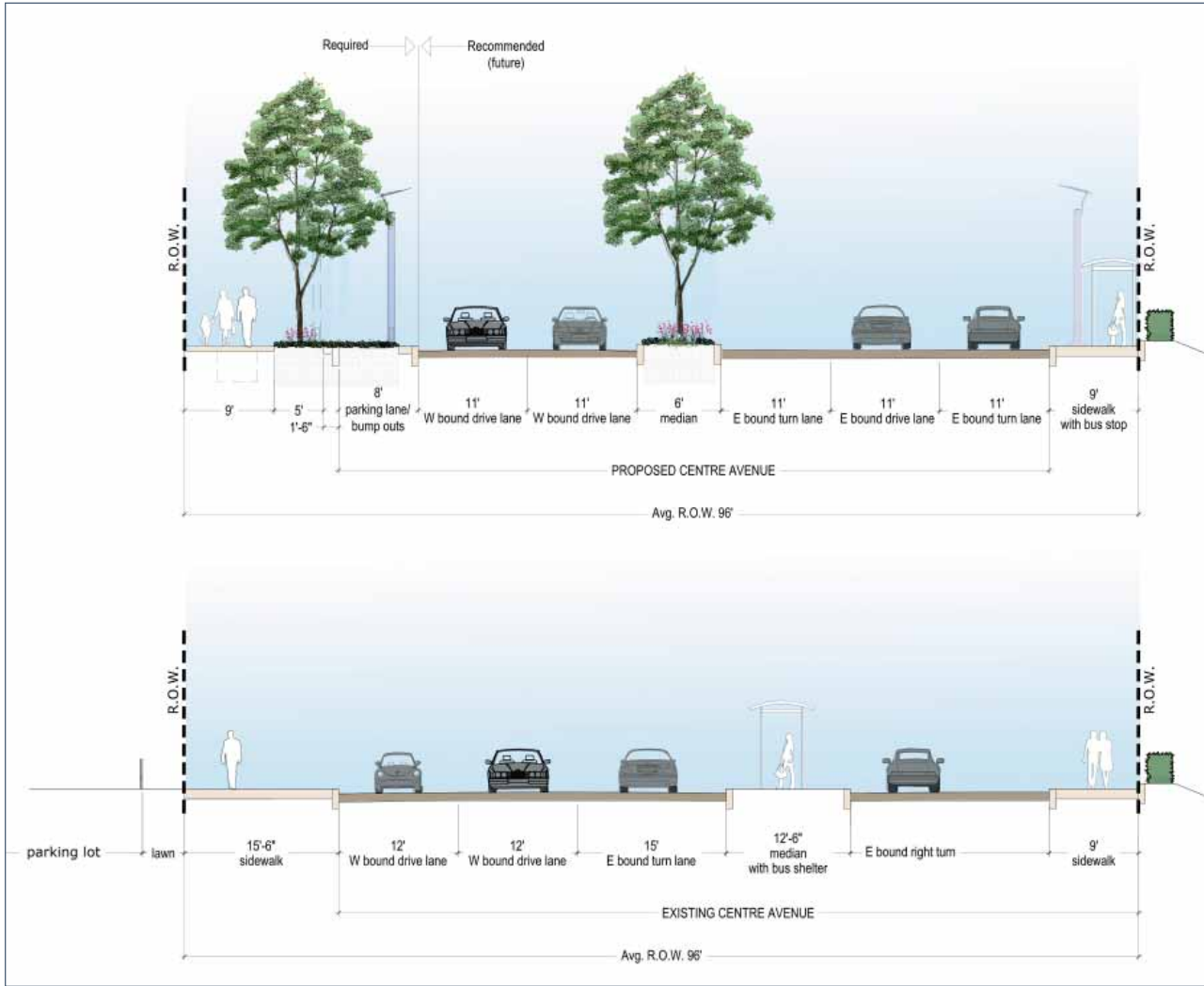


FIGURE 8.5 Centre Avenue Section D-D'

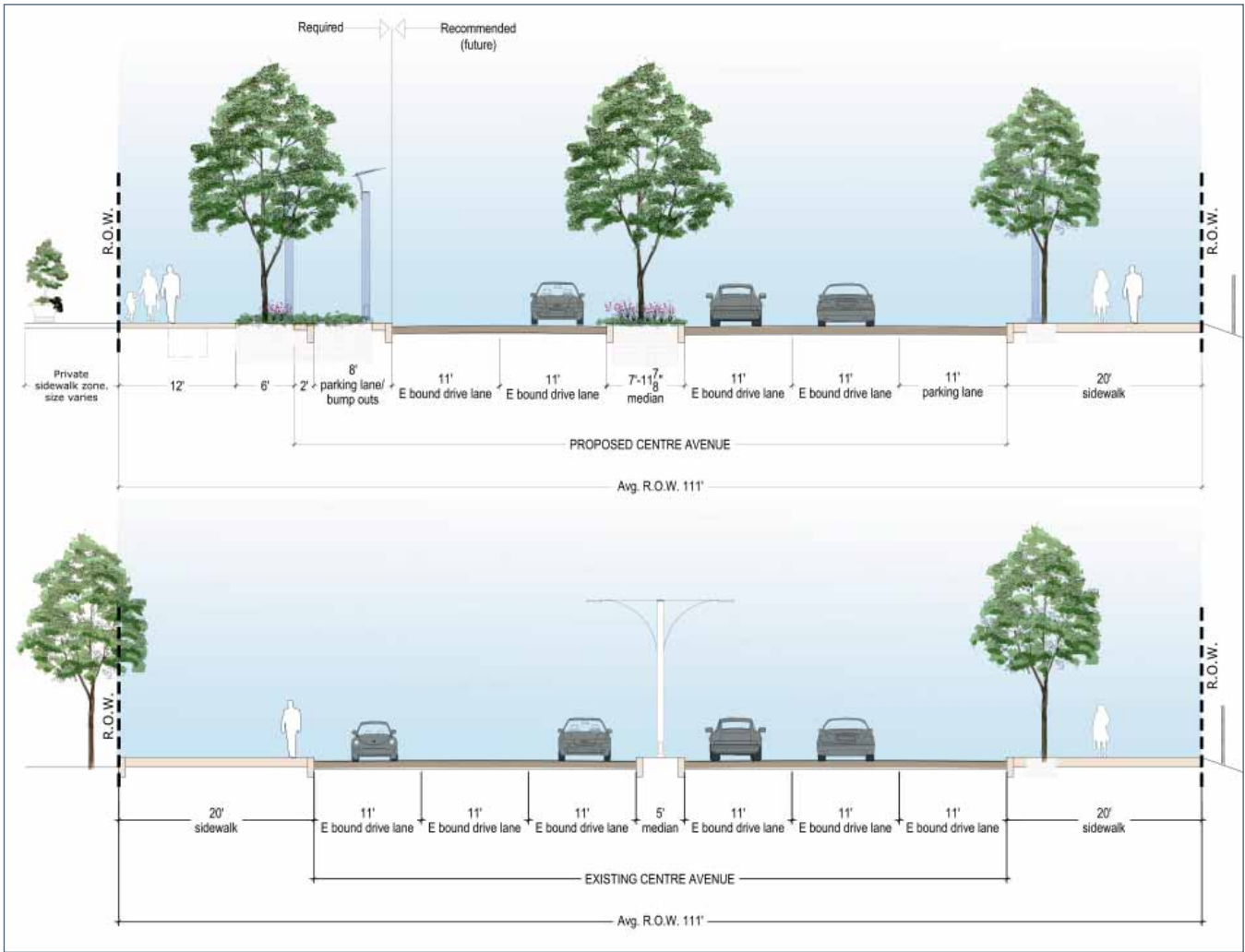


FIGURE 8.6 Centre Avenue Section E-E'



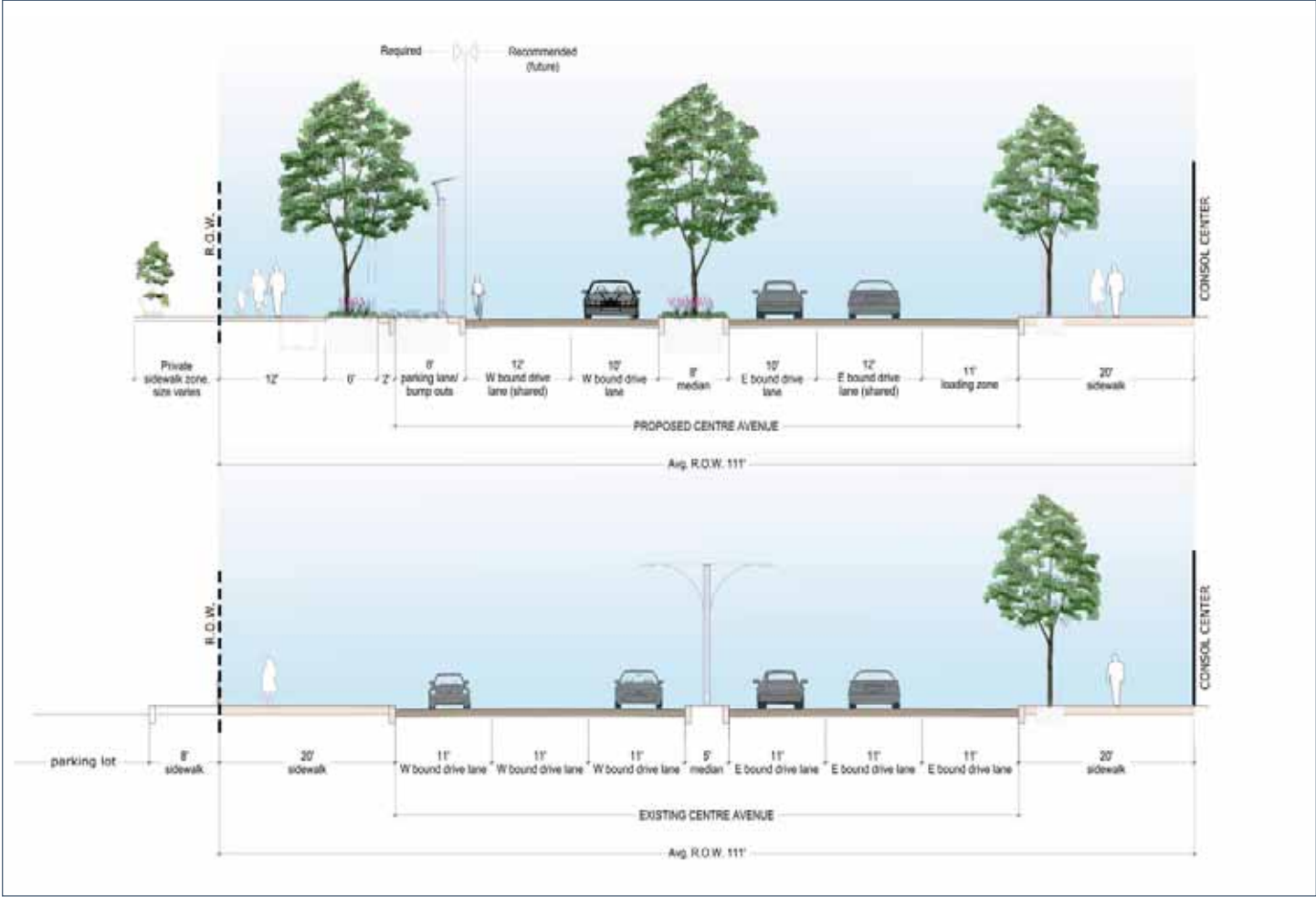


FIGURE 8.7 Centre Avenue Section F-F'

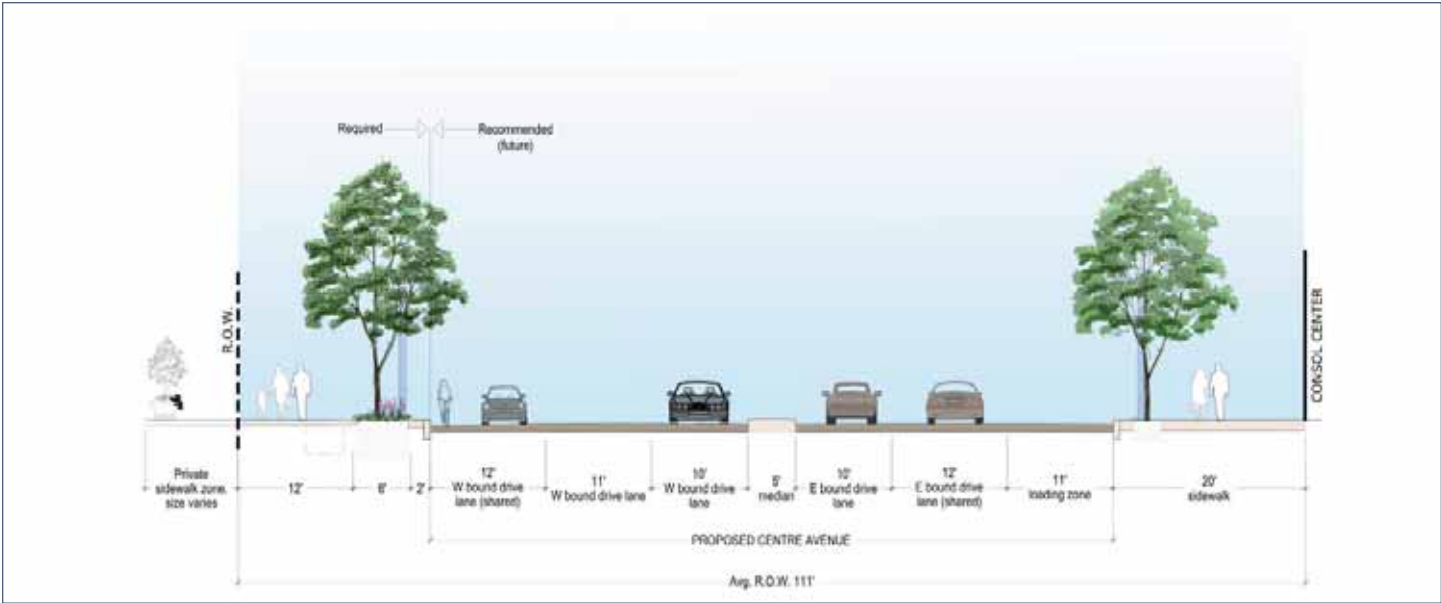


FIGURE 8.8 Centre Avenue Section H-H'

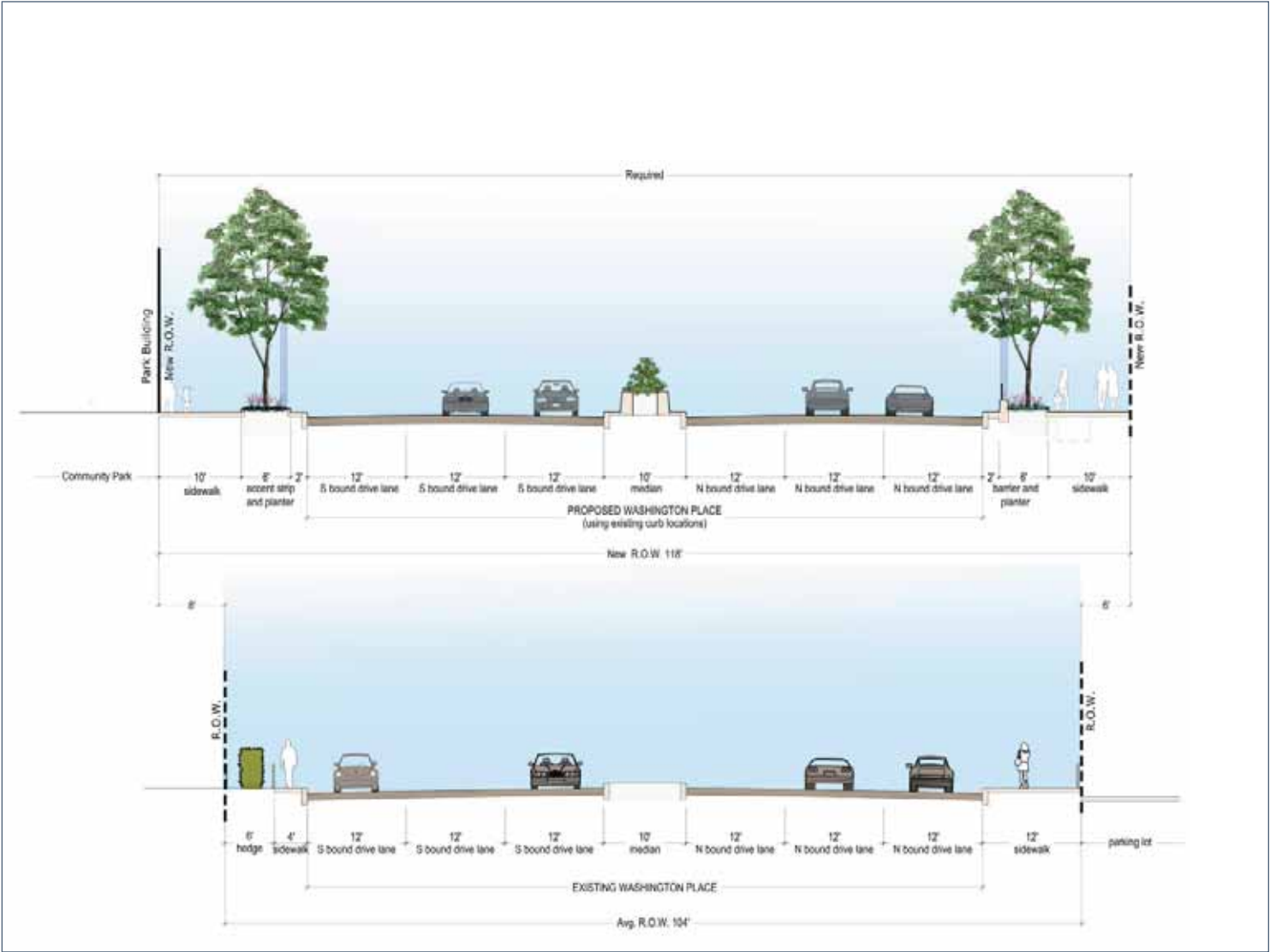


FIGURE 8.9 Washington Place Section G-G'



## Sec. 8.4 Intersection Pedestrian Amenities

Intersection pedestrian amenities are planned throughout and surrounding the site, as shown on Figure 8.9. These improvements include:

- » Bump-outs to lessen pedestrian crossing distances and increase pedestrian visibility along Wylie Avenue at:
  - › Street 1,
  - › Street 2,
  - › Washington Place, and
  - › Centre Avenue/Washington Place.
- » Stop-controlled intersections, crosswalks and signage internal to the development as shown in Figure 8.9.
- » New pedestrian signal equipment at the new traffic signal at Centre Avenue/Street 1 and Centre Avenue/Street 2, with crosswalks, pedestrian push-button and countdown equipment, audible pedestrian equipment and ADA ramps.
- » Off-site installation of pedestrian crosswalks, as part of the City of Pittsburgh CBD signals project, at:
  - › Sixth Avenue/Ross Street
  - › Bigelow Square/Chatham Square
- » Provision of non-mountable median treatment on Washington Place between Centre Avenue and Bedford Avenue, forcing pedestrians to cross at signalized intersections with pedestrian amenities.

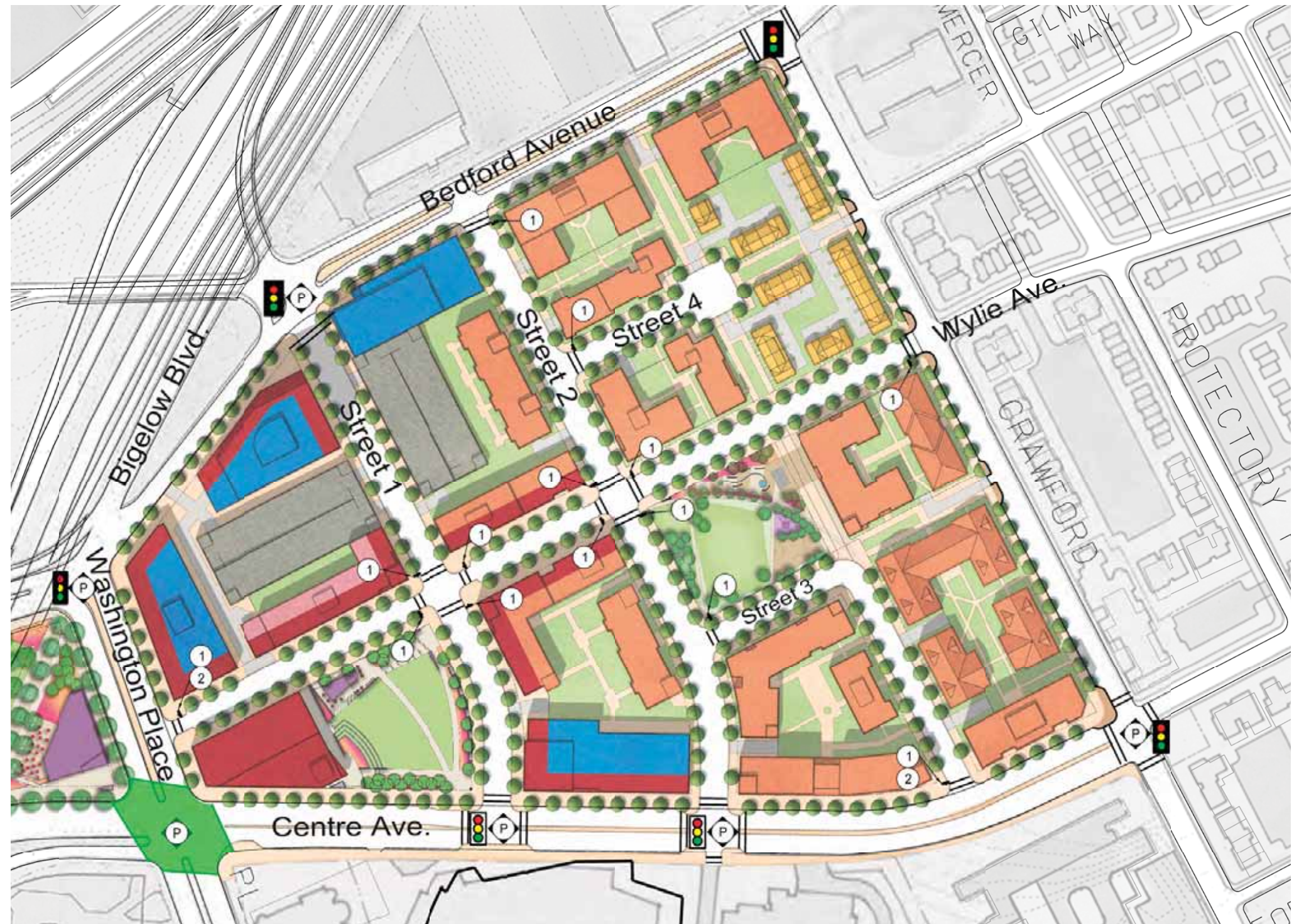


FIGURE 8.10 Roadway Configuration and Recommended Improvements



## Sec. 8.5 Traffic Signalization

ImprovementsThe recommended roadway and signal improvements are shown in Figures 8.9 and 8.10. These improvements are:

### 8.5.1 Washington Place and Bedford Avenue/Bigelow Boulevard

- » Optimize signal timings.
- » Install audible pedestrian pushbutton and countdown signal equipment.

### 8.5.2 Bedford Avenue and Street 1/HOV Lanes

- » The Street 1 approach will be relocated as part of the development, with resultant intersection modifications.
- » Construct Street 1 to provide two-lanes northbound and one-lane southbound at its intersection with Bedford Avenue. The northbound Street 1 approach should provide an exclusive left turn lane and a shared through/right turn lane. On-street parking is provided along the western side (southbound) Street 1 from Bedford Avenue to Wylie Avenue. Limited on-street parking will be provided on the southerly end of the east side of the block.
- » Modify the traffic signal control.
- » Install audible pedestrian pushbutton and countdown signal equipment.

### 8.5.3 Bedford Avenue and Street 2

- » Construct Street 2 to provide two-lanes (one in each direction) with on-street parking on both sides from Centre Avenue to Bedford Avenue.
- » The northbound Street 2 approach should provide one (1) lane for all movements onto Bedford Avenue.
- » Open median on Bedford Avenue opposite Street 2.
- » Install stop sign control on the northbound Street 2 approach, permitting both left and right turns onto Bedford Avenue.
- » Install pedestrian crosswalks with handicap accessible ramps across the northbound Street 2 approach.

### 8.5.4 Bedford Avenue and Crawford Street

- » Optimize signal timings.

### 8.5.5 Crawford Street and Wylie Avenue

- » Construct an extension of Wylie Avenue from Crawford Street to Washington Place to provide two-lanes (one in either direction) with on-street parking on both sides. The eastbound Wylie Avenue approach at its intersection with Crawford should provide one (1) lane for all movements. Install stop sign control on the eastbound Wylie Avenue approach.
- » Install pedestrian crosswalks with handicap accessible ramps across eastbound Wylie Avenue approach.

### 8.5.6 Centre Avenue from Washington Place to Crawford Street

- » Restripe the traffic lanes on Centre Avenue to provide one outboard travel lane in each direction that is 12 feet wide and will be designated as shared vehicle-bicycle lanes with sharrow paint markings.

### 8.5.7 Centre Avenue and Washington Place

- » Install audible pedestrian pushbutton and countdown signal equipment.
- » Intersection and signal improvements to be completed as part of the City's CBD signal project.
- » Apply sharrow lane markings in the outboard travel lanes on both sides of Centre Avenue.

### 8.5.8 Centre Avenue and Street 1

- » Construct relocated Street 1 to intersect with Centre Avenue. At this intersection, Street 1 should provide two (2) lanes southbound and one (1) northbound with an on-street parking lane on the eastern (northbound) side of Street 1, from Centre Avenue to Wylie Avenue. The two southbound Street 1 lanes should provide an exclusive left turn lane and an exclusive right turn lane onto Centre Avenue.
- » Construct eastbound Centre Avenue approach to provide two (2) lanes (a shared left turn/through lane and an exclusive through shared vehicle-bicycle lane) and a drop-off loading area for event attendees along CONSOL Energy Center property frontage on the south side of Centre Avenue.
- » Construct westbound Centre Avenue approach to provide two (2) lanes (an exclusive through lane and a shared vehicle-bicycle shared through/right turn lane) and an on-street parking lane.
- » Apply sharrow lane markings in the outboard travel lanes on both sides of Centre Avenue.
- » Install new traffic signal.
- » Optimize traffic signal timings to provide a three-phase signal, an exclusive eastbound advance phase with a southbound right turn overlap phase, an eastbound/westbound phase, and a southbound phase.
- » Install audible pedestrian pushbutton and countdown signal equipment.
- » Install painted crosswalks on all approaches with handicap accessible ramps.

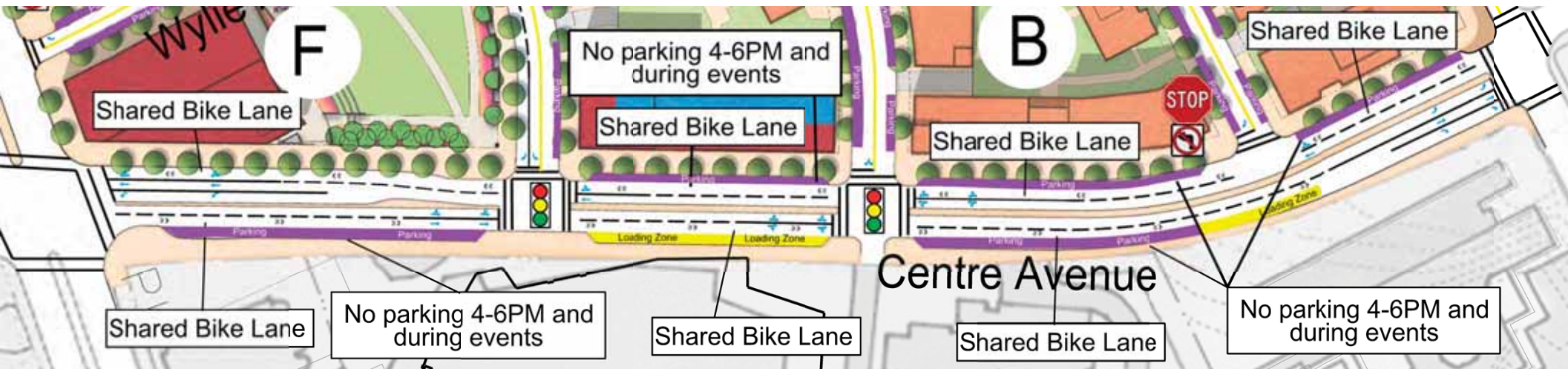


FIGURE 8.11 Centre Avenue Roadway Configuration and Recommended Improvements



8.5.9 Centre Avenue and Street 2/CONSOL Energy Center parking garage driveway

- » Construct Street 2 opposite the existing CONSOL Energy Center parking garage driveway. Street 2 should provide one (1) lane shared left turn/through/right turn lane southbound with an on-street parking lane and one (1) northbound lane with an on-street parking lane.
- » Construct eastbound Centre Avenue approach to provide two (2) lanes (a shared left turn/through lane and a shared vehicle-bicycle shared through/right turn lane) and a drop-off loading area for event attendees along CONSOL Energy Center property frontage.
- » Construct westbound Centre Avenue approach to provide two (2) lanes (a shared left turn/through lane and a shared vehicle-bicycle shared through/right turn lane) and an on-street parking lane.
- » Apply sharrow lane markings in the outboard travel lanes on both sides of Centre Avenue.
- » Install new two-phase traffic signal.
- » Install audible pedestrian pushbutton and countdown signal equipment.
- » Install painted crosswalks on all approaches with handicap accessible ramps.

8.5.10 Centre Avenue and Street 3

- » Construct Street 3 to provide two-lanes (one in each direction) with on-street parking on both sides from Centre Avenue to Street 2.
- » The southbound Street 3 approach should provide an exclusive right turn lane only.
- » Install stop sign control on the southbound Street 3 approach.
- » Install No Left Turn signage for the southbound Street 3 approach.
- » Construct a concrete median along Centre Avenue to prohibit the left turn movements into and out of Street 3.
- » Apply sharrow lane markings in the outboard travel lanes on both sides of Centre Avenue.
- » Install pedestrian crosswalks with handicap accessible ramps across the southbound Street 3 approach.

8.5.11 Centre Avenue and Crawford Street

- » Install audible pedestrian pushbutton and countdown signal equipment.
- » Modify the eastbound Centre Avenue approach to provide an exclusive left turn lane, an exclusive through lane, and an exclusive right turn

lane, in conjunction with reconfiguration or removal of the island on eastbound Centre Avenue at the right turn lane, and relocation of the bus shelter onto the sidewalk.

- » Apply sharrow lane markings in the outboard travel lanes on both sides of Centre Avenue.

8.5.12 Washington Place and Wylie Avenue

- » Construct Wylie Avenue extension, from Crawford Street Washington Place, to provide two-lanes (one in each direction) with on-street parking on both sides from Washington Place to Crawford Street.
- » The westbound Wylie Avenue approach should provide an exclusive right turn lane only.
- » Install stop sign control on the westbound Wylie Avenue approach.
- » Install No Left Turn signage for the westbound Wylie Avenue approach.
- » Construct a concrete median along Washington Place to prohibit left turn movements into and out of Wylie Avenue.
- » Install pedestrian crosswalks with handicap accessible ramps across Wylie Avenue.

8.5.13 Wylie Avenue and Street 1

- » Construct the eastbound and westbound Wylie Avenue approaches to provide a shared left turn/through/right turn lane with an on-street parking lane on each approach.
- » Construct the northbound and southbound Street 1 approaches to provide a shared left turn/through/right turn lane with an on-street parking lane.
- » Install stop sign control on all approaches. The proposed intersection will operate as a 4-way stop controlled intersection.
- » Install pedestrian crosswalks with handicap accessible ramps on all approaches.

8.5.14 Wylie Avenue and Street 2

- » Construct the eastbound and westbound Wylie Avenue approaches to provide a shared left turn/through/right turn lane with an on-street parking lane.
- » Construct the northbound and southbound Street 2 approaches to provide a shared left turn/through/right turn lane with an on-street parking

lane.

- » Install stop sign control on all approaches. The proposed intersection will operate as a 4-way stop controlled intersection.
- » Install pedestrian crosswalks with handicap accessible ramps on all approaches.

8.5.15 Street 2 and Street 3

- » Construct the westbound Street 3 approach to provide a shared left turn/right turn lane with an on-street parking lane.
- » Construct the northbound Street 2 approach to provide a shared through/right turn lane with an on-street parking lane.
- » Construct the southbound Street 2 approach to provide a shared left turn/through lane with an on-street parking lane.
- » Install stop sign control on the westbound Street 3 approach.
- » Install pedestrian crosswalk with handicap accessible ramps on the west-bound Street 3 approach.

8.5.16 Street 2 and Street 4

- » Construct the westbound Street 4 approach to provide a shared left turn/right turn lane with an on-street parking lane.
- » Construct the northbound Street 2 approach to provide a shared through/right turn lane with an on-street parking lane.
- » Construct the southbound Street 2 approach to provide a shared left turn/through lane with an on-street parking lane.
- » Install stop sign control on the westbound Street 4 approach.
- » Install pedestrian crosswalk with handicap accessible ramps on the west-bound Street 4 approach.

8.5.17 Centre Avenue and Sixth Avenue

- » Optimize signal timings.

8.5.18 Fifth Avenue and Sixth Avenue

- » Optimize signal timings.

8.5.19 Forbes Avenue and Armstrong Tunnel

- » Optimize signal timings.



8.5.20 Sixth Avenue and Ross Street

- » Signal optimization.
- » Install audible pedestrian pushbutton and countdown signal equipment.
- » Install pedestrian crosswalks.

8.5.21 Chatham Square and Bigelow Square/Bigelow Boulevard

- » Signal optimization.
- » Install audible pedestrian pushbutton and countdown signal equipment.
- » Install pedestrian crosswalks.
- » It should be noted that intersections included in the CBD signal project, which will be designed and updated as part of the City's project, include the following:
  - » Ross Street/Sixth Street Avenue – new signal, no construction date yet;
  - » Chatham Square/Bigelow Square/Bigelow – new signal, no construction date yet;
  - » Washington Place/Centre Avenue – construction scheduled for 2014;
  - » Washington Place/Bedford Avenue – new signal, no construction date yet;
  - » Bedford Avenue/HOV Lane/Mario Lemieux Place (Street 1) – new signal, no construction date yet;
  - » Bedford Avenue/Crawford – new signal, no construction date yet; and
  - » Centre Avenue/Crawford – new signal, no construction date yet.
- » In addition to improvements presented, transportation conditions in this area can be significantly enhanced for several travel modes by implementation of the following measures:
  - » Providing public transit access by the Port Authority of Allegheny County (PAAC). Routes and stop locations will be further discussed with PAAC. Street 1 will be constructed to accommodate bus traffic between Bedford Avenue and Centre Avenue.
  - » Providing wide sidewalks with pedestrian crosswalks and handicap accessible ramps at all proposed new intersections.
  - » Provide bump outs on roadways within and surrounding the development site as indicated on Figures 28 and 29, to reduce pedestrian crossing distances and to improve visibility of pedestrians for motorists.
- » Optimizing signalized intersection offsets times.

8.5.22 Event Management

- » On-street parking will be prohibited before, during, and after event as follows:
  - » On the east side of Street 1 between Centre Avenue and Bedford Avenue in order to provide two continuous northbound lanes exiting the area;
  - » On the west side of Street 1 between Bedford Avenue and Wylie Avenue in order to provide two continuous southbound lanes on Street 1
  - » On both sides of Street 2 between Centre Avenue and Bedford Avenue in order to provide two continuous lanes in both directions along Street 2;
  - » On the south side of Bedford Avenue between Street 1 and Street 2;
  - » On the north side of Centre Avenue between Crawford Street and Street 1; and
  - » On the north side of Bedford Avenue between Lemieux Street and Crawford Street.

A summary of the traffic and pedestrian control improvements are presented in Figure 8.9. The conceptual Centre Avenue roadway improvements are presented in Figure 8.10.



# Section 9. Illustrative Master Plan

Sec. 9.1 Introduction 92

Sec. 9.2 Illustrative Block A 93

Sec. 9.3 Illustrative Block B 94

Sec. 9.4 Illustrative Block C 95

Sec. 9.5 Illustrative Block D 96

Sec. 9.6 Illustrative Block E 97

Sec. 9.7 Illustrative Block F 98

Sec. 9.8 Illustrative Block G 99

Sec. 9.9 Illustrative Block H 100



Sec. 9.1 Introduction

The PLDP establishes a framework within which specific development proposals can be brought forth at a later date. The final master plan will be documented in the FLDP once developers come forth with an implementation plan. Because the PLDP establishes a flexible set of parameters for development, the final form of the blocks cannot be predicted at this time.

In order to provide a visual of the development capacity and potential physical form, a series of three dimensional views were created. The model images to the right provide three-dimensional mapping of the minimum and maximum building height allowances prescribed in the Building Height Regulating Plan. All new buildings must fall within this range. While the final development plan is yet to be defined, these models illustrate the flexibility of the guidelines. The pages illustrate one potential plan scenario.

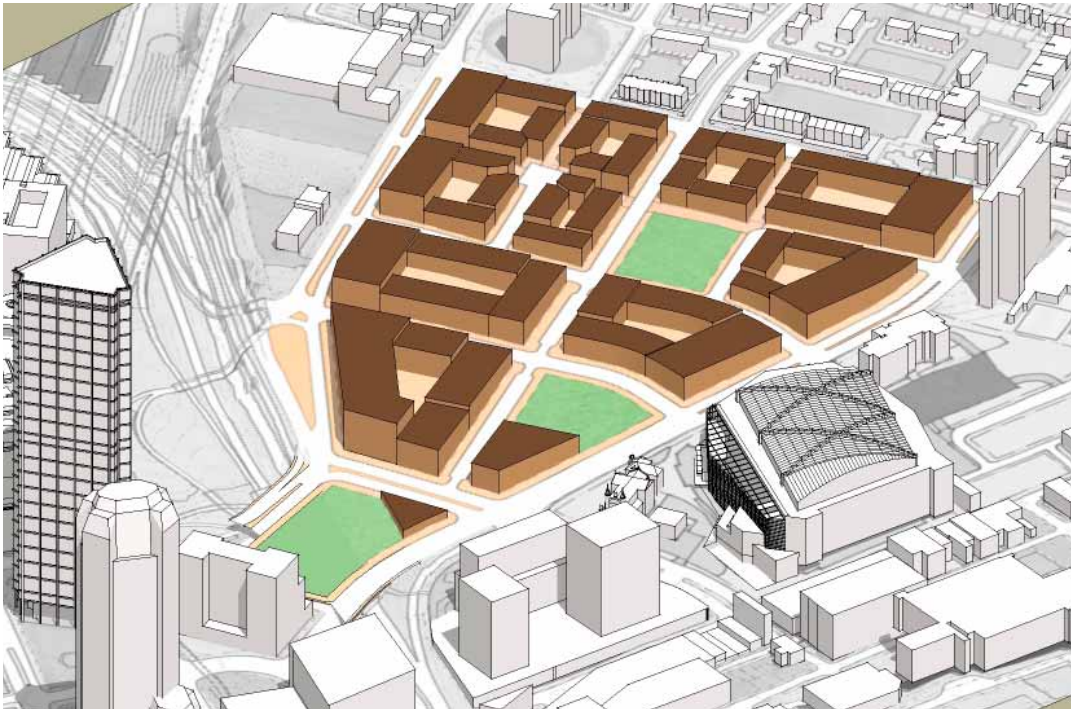


FIGURE 9.11 Minimum Building Height requirements

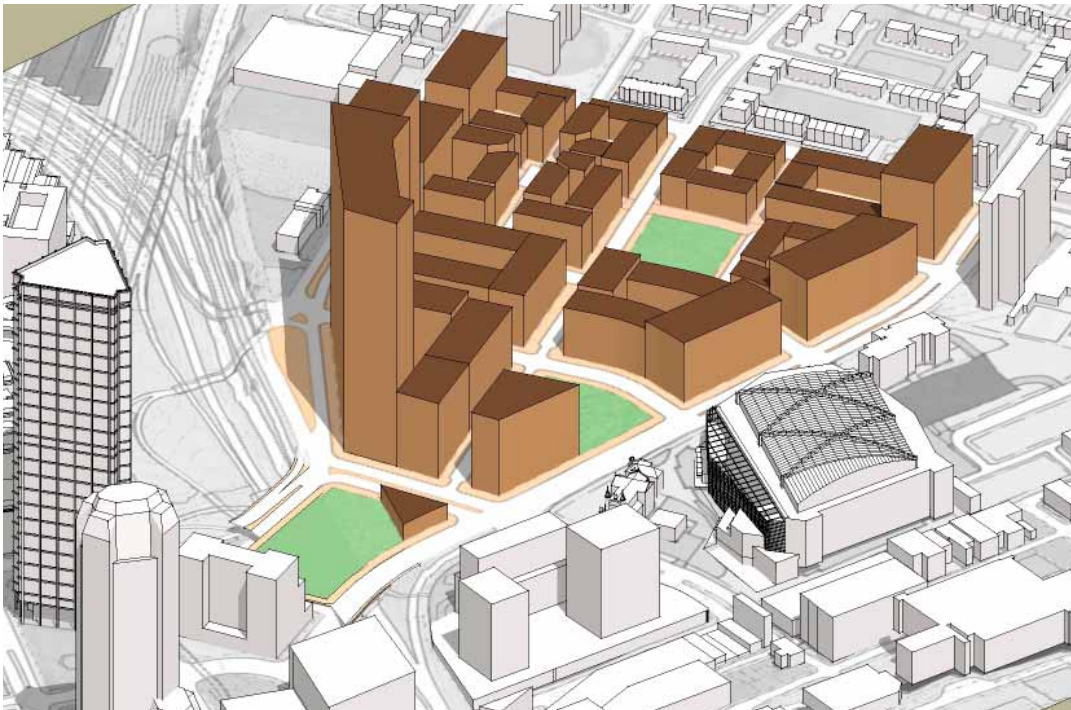


FIGURE 9.12 Maximum Building Height requirements





The Illustrative Master Plan to the right is an illustration of the regulating plans, and illustrates potential development on the site. A street grid, reflecting some of the historic streets provides a new network. New attached houses and low-rise apartments are intended to line Crawford Street reinforcing the successful Crawford Square development across the street. On the blocks closest to Downtown, office buildings and mid-rise apartments are intended to be built with ground floor shops and restaurants. An entertainment retail environment is envisioned for the core of the site surrounding a signature community park. A second park further east in the plan will cater to residents.

In order to establish the desired urban framework for redevelopment, the capacity of each block was studied in detail. The natural features of the site, situated on a significant incline, strongly affect the layout and capacity of each block. Substantial changes in grade within a single block result in opportunities for stepped building typologies, hidden garage levels, and a “hidden” increase in building heights. By increasing heights as the grade slopes downhill, tall buildings can exist at lower elevations without compromising sight lines to Downtown.

While the street grid and changing grade allows for a variety of options in developing each block, the studies which follow reflect the proposed Illustrative Master Plan and corresponding program.

TABLE 9.1 Concept Development Program	
Residential	1,188 units
Retail/Commercial/Entertainment	248,800 SF
Office	632,000 SF
Hotel	150 rooms
Structured Parking	2,457 cars
Parks Space	2.8 acres
Other Open Space	3.1 acres



FIGURE 9.13 Illustrative Master Plan



## Sec. 9.2 Illustrative Block A

Situated along Crawford Street between Centre Avenue and Wylie Avenue, this block is a gateway for the site from two main approaches. The block has two different scales: an urban scale along Centre and a neighborhood scale along Crawford, Fullerton and Wylie. Building heights along Crawford Street should correspond to the scale of houses in Crawford Square. At the corner of Centre Avenue and Crawford Street, buildings should be designed to relate to St.Benedict the Moor Church and Freedom Corner. Portions of the frontage along Centre Avenue may accommodate a tall building with active ground floor uses, while residential frontage is recommended for the rest of the block. The block is bisected by a private alley easement, which can serve as both a pedestrian mews and a parking drive. The northern part of the block forms one edge of a new neighborhood park.

The Illustrative Master Plan illustrates one possible solution to parking. Two podium garages create level platforms for residential courtyards, which are wrapped by housing. On the downhill side, two-story liner townhouses conceal the parking decks from public view. Two building types are shown, a high-rise residential tower that compliments Washington Place across Centre Avenue, and four-story courtyard apartment buildings.

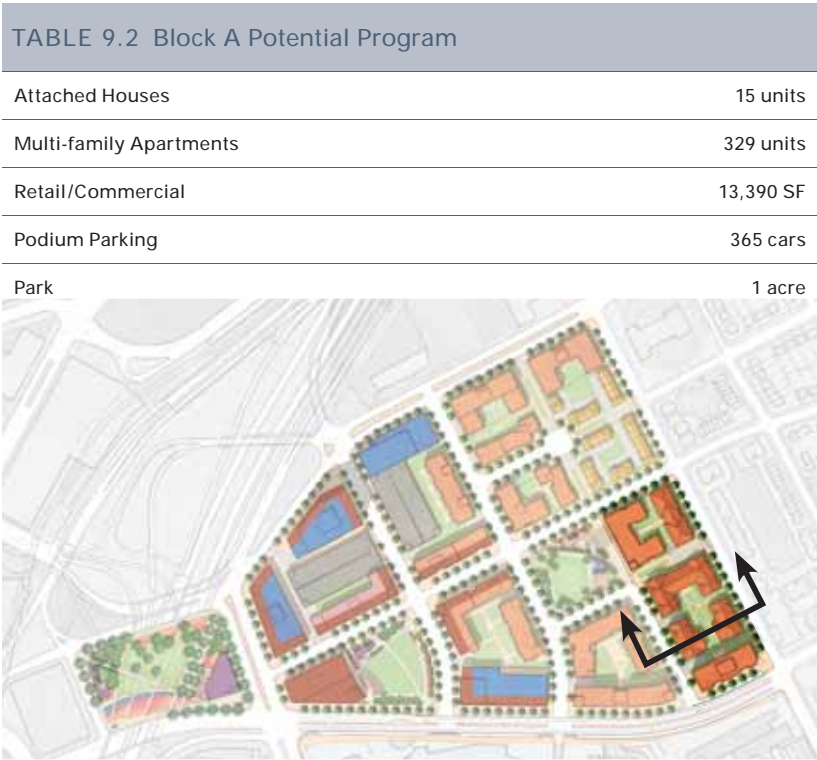


FIGURE 9.14 Section Locator Plan



FIGURE 9.15 Program Model



FIGURE 9.16 Illustrative Block Plan

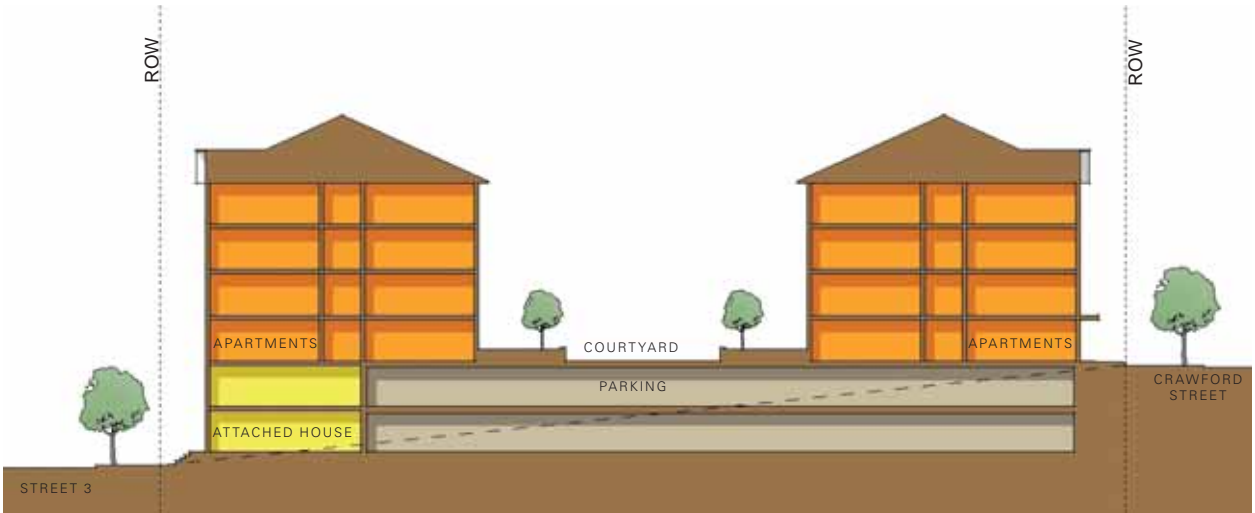


FIGURE 9.17 Block Section



Sec. 9.3 Illustrative Block B

Block B is a diverse block in a prominent location within the site. The north side of the block is a one-acre community park, designated primarily for the benefit of residents of the Lower Hill Site Redevelopment. At the south end of the block, tall buildings are permitted along Centre Avenue and can accommodate active ground floor uses. Street 3 will be primarily residential in character. Street 2 will be an important entry street from Centre Avenue, with a wider right-of-way to accommodate more traffic. Community related functions should be integrated into buildings facing Street 2 and the park. Although a number of uses are permitted for this block, the conceptual design illustrated here is predominantly residential in use. Similar to Block A, parking is partially submerged in a podium at the center of the block with a rooftop courtyard. A community facility lines the parking structure at street-level along Street 2 and the park.

TABLE 9.3 Block B Potential Program	
Multi-family Apartments	223 units
Retail/Commercial	10,910 SF
Community Space	8,800 SF
Podium Parking	247 cars



FIGURE 9.18 Section Locator Plan



FIGURE 9.19 Program Model



FIGURE 9.20 Illustrative Block Plan

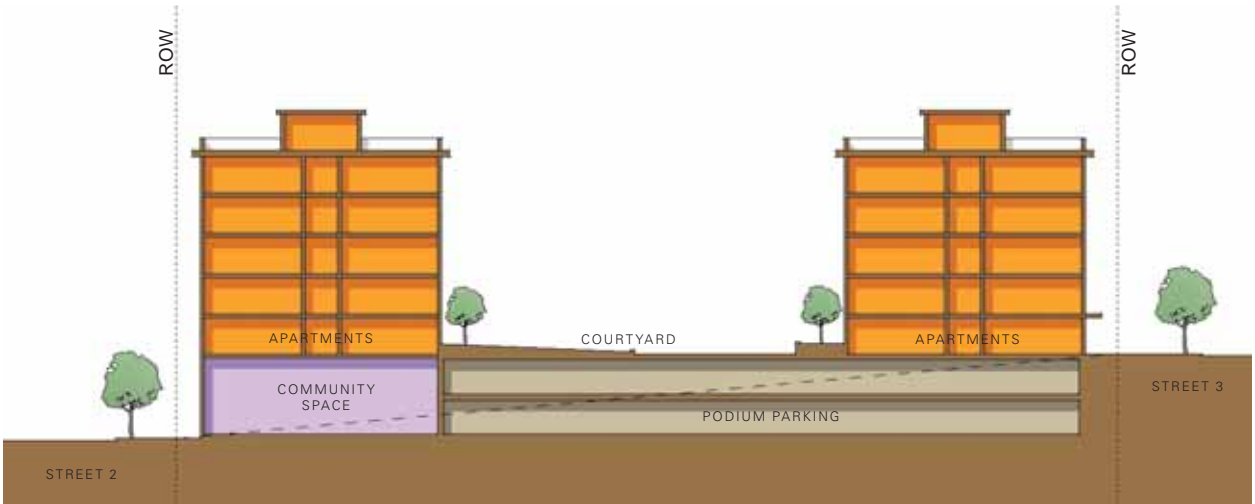


FIGURE 9.21 Block Section



Sec. 9.4 Illustrative Block C

The steep slope of the northeast part of the site creates many challenges for the design of this block. The topographic constraints make it difficult to divide the block into smaller blocks with streets, so the block is subdivided into four areas by three private alley easements. The easements can be landscaped or hardscaped areas used for vehicular and pedestrian access and connections. As illustrated, the four quadrants are flexible enough to accommodate various building types, building scales, and parking solutions. Taller buildings are permitted along Bedford Avenue to reinforce the boulevard character of the street and to take advantage of skyline and Allegheny River Valley views. Smaller-scale buildings are required along Crawford Avenue to match the character of adjacent housing. Buildings are designed to terrace downhill with every effort made to address streets with front porches and entry stoops. Entry to basement parking is located on the downhill sides of buildings to minimize grading and to work with the slope of the streets. The section illustrates how units and parking may be nested into the slope and grading may be managed to minimize site retaining walls.

TABLE 9.4 Block C Potential Program

Attached Houses	29 units
Multi-family Apartments	326 units
Podium Parking	331 cars
Integral Parking	29 cars



FIGURE 9.22 Section Locator Plan



FIGURE 9.23 Program Model



FIGURE 9.24 Illustrative Block Plan

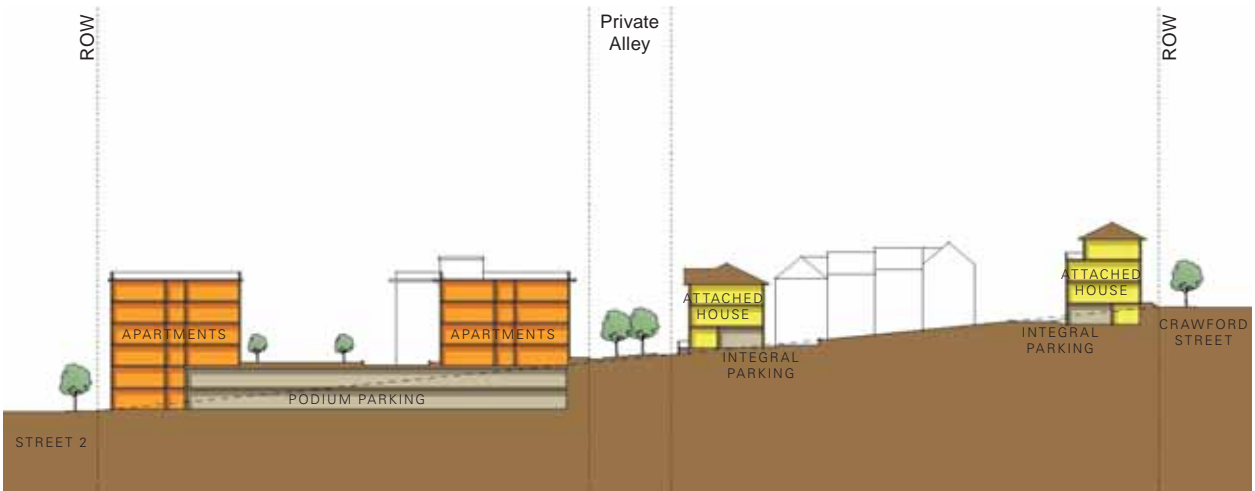


FIGURE 9.25 Block Section



Sec. 9.5 Illustrative Block D

Block D is located in a prime location within the site, flanked by two new parks and across the street from the CONSOL Energy Center. To capitalize on advantageous location, the frontages along Wylie Avenue, Street 1, and Centre Avenue will be commercial in character, and retail and entertainment uses are encouraged here. The Street 2 frontage will be residential in character. Taller buildings will be permitted along Centre Avenue and Street 1 to complement the building mass of the CONSOL Energy Center district and to create a strong urban wall around the eastern edge of the park. Office and residential uses are recommended for the upper floors of buildings. A possible configuration of the block is illustrated to the right. Like adjacent blocks, parking can be terraced into the hillside to create a platform for new buildings. This conceptual design features a semi-private courtyard in the center of the block that enhances pedestrian connectivity between the buildings and surrounding streets.

TABLE 9.5 Block D Potential Program	
Multi-family Apartments	141 units
Retail/Commercial	42,200 SF
Office	116,000 SF
Podium Parking	305 cars



FIGURE 9.26 Section Locator Plan



FIGURE 9.27 Program Model



FIGURE 9.28 Illustrative Block Plan

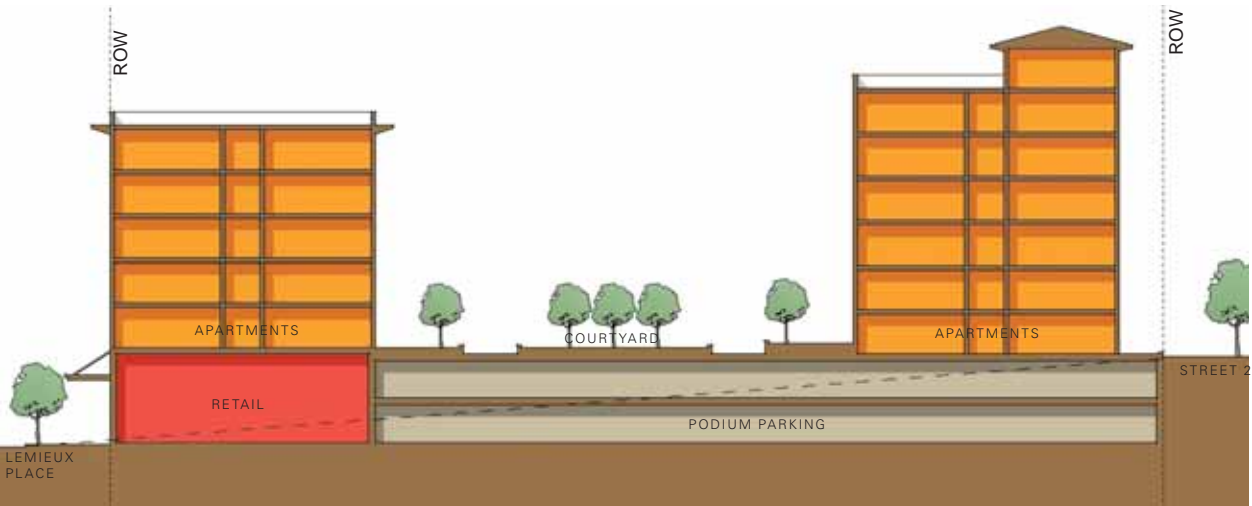


FIGURE 9.29 Block Section



Sec. 9.6 Illustrative Block E

Along with Block D, Block E transitions from the residential character of the upper part of the site to the denser, more commercial character of the lower part of the site. Retail and entertainment uses are encouraged along Wylie Avenue and if possible along Street 1. A freestanding garage building is permitted in this block to allow increased development density, both in this block as well as in surrounding blocks. The provision for additional parking capacity at this location is part of a coordinated parking strategy for the entire site. It is anticipated that this garage will serve many needs, including events at the CONSOL Energy Center. If the market demand exists, development density on this block may be higher than what is illustrated in the Illustrative Block Plan. Taller buildings are permitted along Bedford Avenue to capture spectacular views of the city and Allegheny River Valley, and to be visible from the expressway.

TABLE 9.6 Block E Potential Program	
Multi-family Apartments	124 units
Retail/Commercial	14,415 SF
Office	108,370 SF
Garage Parking	343 cars
Podium Parking	138 cars



FIGURE 9.30 Section Locator Plan



FIGURE 9.31 Program Model



FIGURE 9.32 Illustrative Block Plan

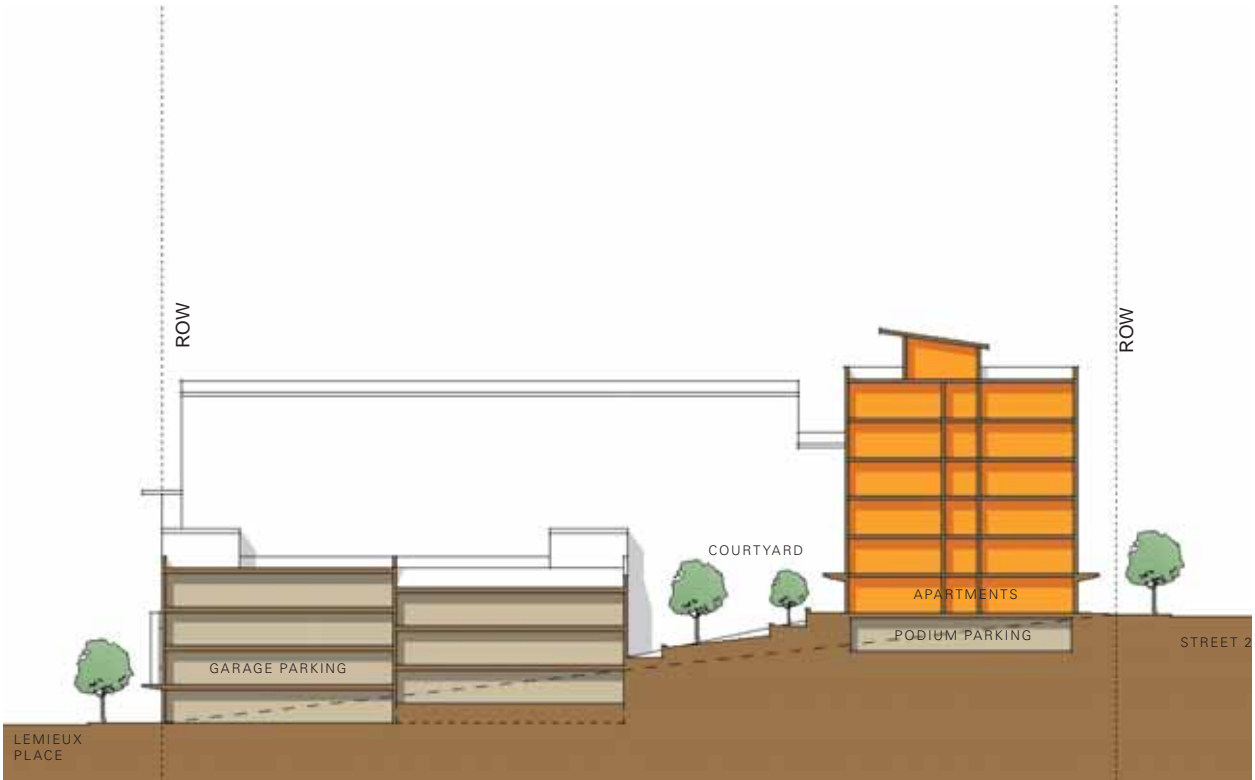


FIGURE 9.33 Block Section



Sec. 9.7 Illustrative Block F

Block F will become a signature community park designed to accommodate major public gatherings as well as daily users. The park will slope towards Downtown and will feature a new multi-use pavilion located at the convergence of Centre Avenue, Washington Place, and Wylie Avenue. The park and entertainment complex will be a major focal point and a dynamic center of activity for the Lower Hill Site Redevelopment, so the overall design must successfully integrate the design of surrounding buildings with the design of the public space. The Illustrative Block Plan illustrates a park that functions as an outdoor amphitheater facing an outdoor stage and video screen at the entertainment pavilion. This combination creates the possibility for outdoor concerts, pre-game events, outdoor seating for viewing games, and other celebrations. Development of entertainment uses around the park will create the energy and excitement that makes this a focal point of the Lower Hill Site Redevelopment.

TABLE 9.7 Block F Potential Program	
Retail/Entertainment	73,050 SF
Park	1.2 acres



FIGURE 9.34 Section Locator Plan



FIGURE 9.35 Program Model



FIGURE 9.36 Illustrative Block Plan

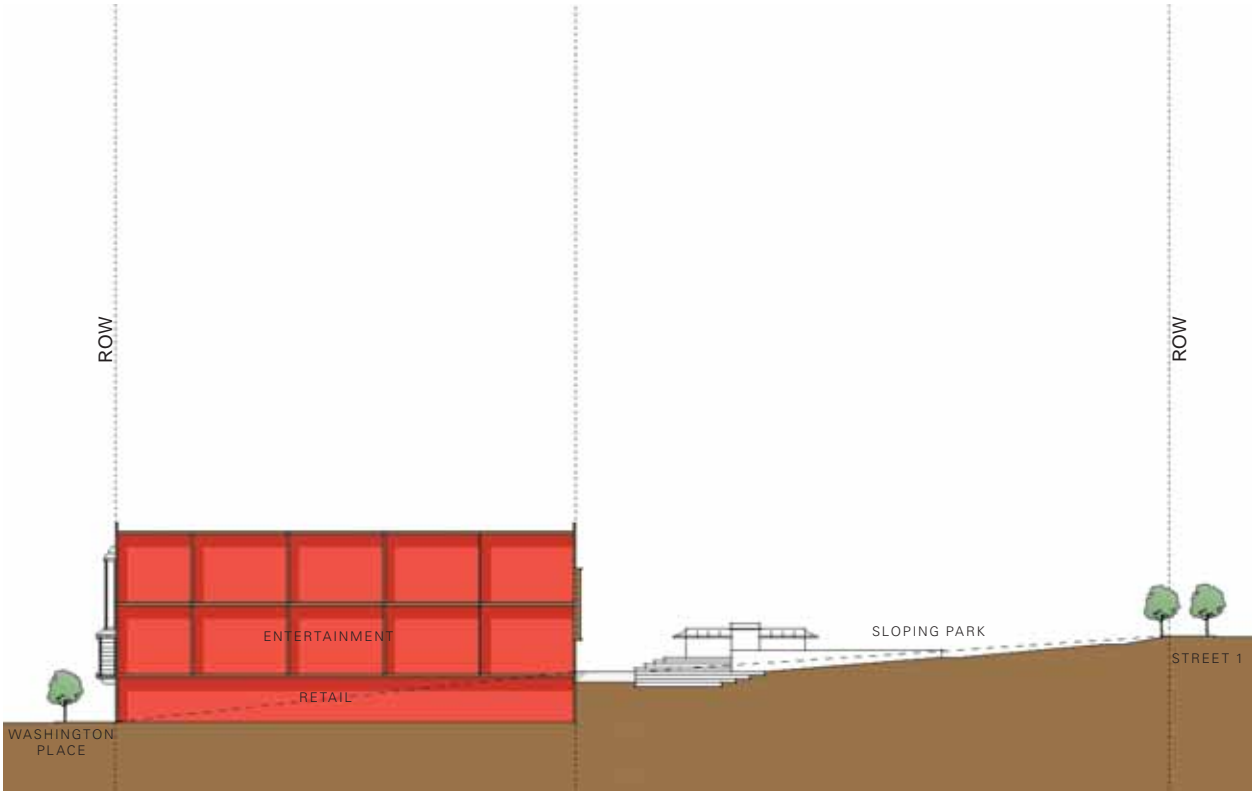


FIGURE 9.37 Block Section



Sec. 9.8 Illustrative Block G

Block G is a large block that will accommodate substantial mixed-use development. This block is large enough to include a large parking garage, similar to Block E. The availability of a large pool of parking suggests a range of commercial uses that include office space, a hotel, restaurants, retail and other destination uses. The conceptual design illustrates an arrangement of buildings around the perimeter of the block with a parking garage in the center of the block. The garage provides an opportunity to create a large Green Roof. A hotel is shown with views of the signature community park and a porte cochere that leads to the garage. Two office buildings with large floor plates and varying heights are shown. Together, they create a corporate campus with spectacular views of the city, which would be attractive to many corporate tenants. This block is highly visible and accessible, so it should have an active street frontage that responds to its important location in the city.

TABLE 9.8 Block G Potential Program	
Hotel (150 Rooms)	99,900 SF
Retail/Commercial	89,836 SF
Office	407,592 SF
Garage Parking	568 cars
Podium Parking	132 cars



FIGURE 9.38 Section Locator Plan



FIGURE 9.39 Program Model



FIGURE 9.40 Illustrative Block Plan



FIGURE 9.41 Block Section



Sec. 9.9 Illustrative Block H

Many decades ago, a seamless urban fabric connected a vibrant Lower Hill to Downtown. Today, a freeway trench and a tangle of interchanges divide the two neighbors. Along with the historic Fifth Avenue commercial district, CONSOL Energy Center, and Duquesne University, the former arena site is uniquely situated to spur further development in the Downtown area and to grow along with it. The Illustrative Master Plan strengthens the pedestrian connections between Downtown and the Lower Hill to create a cohesive network and to mend the physical divide. A cap over the trench would create a new park between the two districts, erasing the barrier and making a pleasant place out of a concrete canyon. The proposed park design includes terraced lawns, sweeping beds of flowers, and groves of trees to create an urban haven. At the corner of Centre Avenue and Washington, a restaurant with outdoor terrace seating will help activate the park while treating its patrons to an enjoyable park vista. A smaller cafe pavilion is envisioned at the western end of the park.

TABLE 9.9 Block H Potential Program	
Retail/Commercial	5,000 SF
Park	0.6 acres



FIGURE 9.42 Section Locator Plan

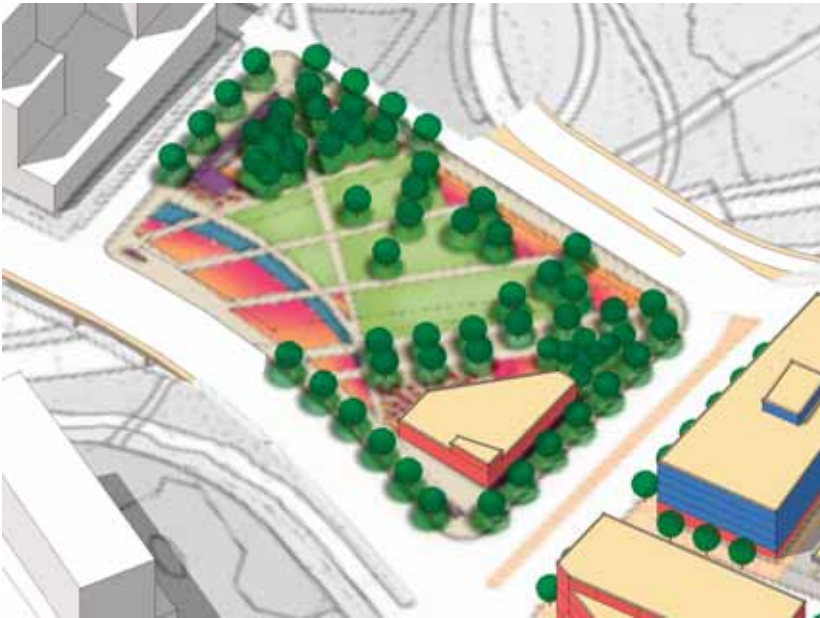


FIGURE 9.43 Program Model



FIGURE 9.44 Illustrative Block Plan

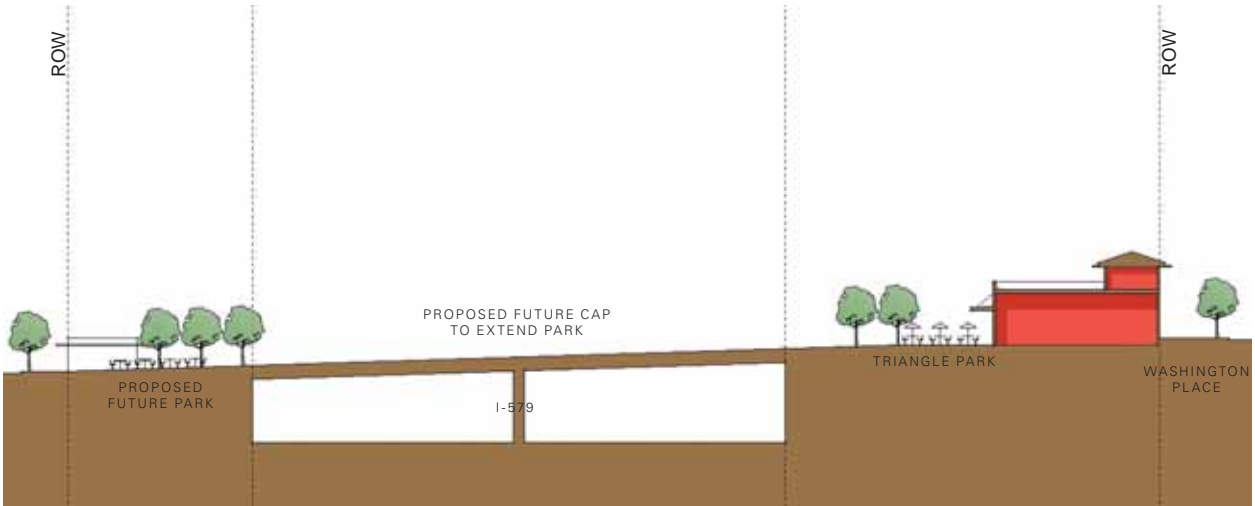


FIGURE 9.45 Block Section



# Section 10. Implementation Strategy

Sec. 10.1 Implementation Strategy 102





## Sec. 10.1 Implementation Strategy

In accordance with the governing Agreements between the Penguins, SEA and URA, this Lower Hill PLDP and the SP District, the Lower Hill will be redeveloped. The redevelopment of the area shall require the cooperation and support of public and private entities in partnership. Federal, state, local, corporate, community partners, and private developers will be engaged to fully realize the redevelopment. The redevelopment will take place in a manner that follows the requirements of this Lower Hill PLDP, public funding and the private marketplace. LEED-ND goals shall be considered at each stage of the implementation process.

The implementation of the redevelopment plan is intended to be flexible.

### 10.1.1 Site Preparation

The SEA completed demolition of the Civic Arena in the fall of 2012 and has constructed surface parking and temporary erosion and sedimentation controls in the area of the former Arena.

### 10.1.2 Infrastructure

Infrastructure including stormwater, sanitary, water, private utilities, and public right-of-way improvements is required to secure and support private development. Infrastructure will be completed in phases based on available funding. Each phase will be structured in a manner to provide for complete blocks, or groups of blocks within a sub-district.

### 10.1.3 Open Space

The City of Pittsburgh's zoning code requires that 10% of the gross development area be dedicated Urban Open Space. This Lower Hill PLDP has fulfilled the requirement through the identification of three Urban Open Spaces that will be publicly accessible. The individual Urban Open Spaces shall be constructed incrementally, in conjunction with private development and the completion of Infrastructure on a sub-district basis. It is anticipated that the Urban Open Space will be owned, maintained and operated privately by a Neighborhood Improvement District. The following is the expected timing of the Urban Open Space implementation:

- » Community Open Space has to be completed prior to first FLDP occupancy permit for Blocks A, B or C
- » Civic Open Space has to be completed prior to first FLDP occupancy permit for Blocks D, E, F or G
- » Open Space in Block H has to be completed prior to FLDP occupancy permit for Block H

### 10.1.4 Private Development

Once sufficient funding is identified to complete the infrastructure to support private development on an individual block or grouping of blocks basis private developers and end users will be secured. The governing Agreements establish a minimum percentage (or acreage) of the site to be developed over a predetermined period of time (Option Term). Private development will be performed consistent with the Lower Hill PLDP, SP District and governing Agreements. This incremental development approach is important in establishing and maintaining momentum for the project while maintaining market flexibility.



# Section 11. Definitions

Sec. 11.1 Definitions 104





Sec. 11.1 Definitions

These definitions are provided to clarify terms in this PLDP. If terms or definitions conflict with the SP District zoning text, then zoning text to supersede.

Address Signage  
Signifies the address of a building

Americans with Disabilities Act (ADA)  
Federal law that establishes design standards for accessibility.

Arcade  
Covered walkways with conditioned space in the floors above them

Articulate  
To emphasize a building or building element

Attached Building  
A building that shares a wall with an adjacent building

Awning  
A protective covering over a window, door or opening

Back-Of-House  
All of the service-related functions of a building or collection of buildings including Service Locations, Loading Zones, loading docks, utility meters, and exhaust vents that typically locate at the non-street-facing side of the building.

Balcony  
An unenclosed platform that protrudes from the face of a building

Bay Width  
The percentage or length (feet) of a Main Body’s facade that is vertically articulated as a structural bay

Bay Window  
A window assembly that protrudes from the face of a building

Bicycle Lane  
A section of the right-of-way designated for bicycle use

Block  
An increment of development defined as an area of land completely surrounded by streets. It may contain several buildings and can be subdivided into smaller parcels.

Block Face  
The side of a street between two intersections.

Block Type  
Classification of blocks based on use, organization, location and access

Building Element  
Component of a building that is not its main body

Building Envelope  
The horizontal and vertical boundaries that a building is permitted to either partially or wholly occupy

Building Facade  
A side of a building; often the front

Building Height  
(as presented in the Pittsburgh Zoning Code)  
Building Height means the vertical distance between Average Finished Grade along the wall facing the front street yard and:  
(a) The highest point of the coping of a flat roof;  
(b) The deck line of a mansard roof; or  
(c) The average height level between the eaves and ridge line of a gable, hip or gambrel roof.  
See following sections for further information: 925.07.A – Measured in Feet; 925.07.B – Measured in Stories; 925.07.C – Exemptions from Height Standards.

Building Signage  
Signage that is used to identify or convey information about a residence or establishment

Building Type  
Classification of a building based on form and lot placement

By-Right Uses  
A use that is specifically permitted under The Code in a Transect Zone without further approval

Cartway  
The total dimension between the edges of the surfaces intended to carry moving vehicles (curb to curb)

Chimney  
An articulated element that extends through the roof to carry smoke away from a fireplace

Community Building  
Public or semi-public buildings built and maintained for public or membership use.

Conditioned Space  
A space in which the environment is controlled for human comfort

Contained Planting Strip  
An intermittent planting zone bounded by the sidewalk or curb on four sides

Corner Lot  
A parcel of land abutting two streets that meet at an intersection

Cornice  
A protrusion from the top of a ceiling or pediment, or at the bottom of a roof

Dark Sky  
The desire to limit light pollution from exterior lighting

Design Speed  
The highest vehicular speed (miles per hour) that vehicles are expected to travel along a street.

Development Area  
The land area identified in the approved Illustrative Master Plan created by Streets

Development Block  
The area defined by streets or opened spaces intended for the development of urban open space or buildings

Development Lot (Parcel)  
A designated piece of land with defined boundaries on which development sits



District Energy	Ground Floor Use	Lobby Entrance
Central, on-site system that produces steam, hot water or chilled water at a central plant. The steam, hot water or chilled water is then piped under-ground to individual buildings for space heating, domestic hot water heating and air conditioning.	The use of the ground floor of a building	The primary entrance of a building that leads into a common space
District-Wide Use	Ground-Floor Transparency	Lot Area
Any facility, amenity, or design criteria that is to be shared in a neighborhood or collection of neighborhoods.	Percentage of a building’s ground floor facade within the Build-To Zone that must be glazed	The Lot Depth multiplied by the Lot Width
Encroachment	Habitable Space	Lot Depth
Building or other elements of a structure extending into a setback, yard, right-of-way, or other area designated as being restricted in its use.	A space within a building appropriate for living, eating or sleeping	Distance (feet) between front and rear lot lines
Facade Composition	Identification Sign	Lot Width
The arrangement of doors, windows, and building elements on a building	Signs that describe the use or uses contained on a block or within a building	Distance (feet) between side lot lines
Finished Floor Elevation (FFE)	Illustrative Master Plan	Low-impact Development Standards
The height above average grade that the finished floor of a structure must be located.	A plan that illustrates and describes the development possibilities for the Lower Hill using the Regulating Plans and design regulations of this document	A comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds
Flat Roof	Impervious Coverage	Lumen
A roof without a pitch, including mono-pitch or parapet roofs	Percentage of a surface area that does not allow the percolation of stormwater into the ground	Measurement of visible light from a source
Front Yard	Integral Parking	Main Body
Minimum length (feet) from the front lot line that the above-grade foundation line of conditioned space may locate	Parking located underneath a building associated with a specific residential unit and typically having an individual garage door (commonly referred to as ‘tuck-under’)	The primary mass of a building
Frontage	LED	Main Body Depth
Part of a building that is adjacent to a street, path or body of water	An efficient source of light used for general lighting and digital displays	Length of the Main Body more or less perpendicular to the right-of-way (or right-of-ways in the case of corner parcels) from the street-facing facade to its rear wall
Gallery	LEED-ND	Main Body Footprint
A building element that provides weather protection for a sidewalk and allows for outdoor living areas for upper floor(s)	LEED for Neighborhood Development integrates the principles of smart growth, urbanism and green building into the first national system for neighborhood design.	Area of the Main Body’s footprint
Ground Floor	LEED-NC	Main Body Height
The first floor that sits above the average grade of a site	LEED for New Construction and Major Renovations. LEED-NC is a green rating system for new and existing commercial and institutional buildings.	Total height of habitable floors, in feet or number of stories, of a building’s Main Body
Ground Floor Height	Loading Zone	Main Body Width
The floor-to-floor height, in feet, of the ground floor of a building	A marked space adjacent to a curb or specified in a parking facility that is reserved for the exclusive use of vehicles during the loading or unloading of passengers and materials during posted hours of the day.	Length of the frontage of a building’s Main Body
		Street
		Streets that appear on The Lower Hill Regulating Plan
		Median
		The articulated zone that separates opposing directions of vehicular traffic



Menu Board Sign	A sign on which products of an eating establishment are clearly presented
Nameplate Sign	Signs that describe a single use contained within a building
Non-Permitted Use	Any use not permitted in the Uses Table
On-Street Parking Zone	Area that contains parking along the street
Painted Signage	Large sign that is painted on an exterior wall and intended to be seen from a distance.
Open Space Sign	Signs that describe the name, location, donor, or function of a open space or trailhead
Parcel	A smaller increment of development within a block. An area of land defined by exact boundaries.
Pedestrian Scale	The relationship of a built environment to human proportion and comfort
Penthouse	An articulated mass on the roof of a building used for roof access or to house mechanical equipment
Podium Parking	Parking situated under a building and acting as the base of the building
Porches	A covered platform at the entrance of a building
Porte Cocheres	A covered pick-up and drop-off portal accessible to vehicles
Primary Frontage	Facade in which a building's main entrance is located
Principal Use	Permitted use or uses that may occupy a building

Private Alley	Private alleys serve the parking and service functions of development blocks and parcels but can also provide a secondary pedestrian network for better connectivity and additional commercial frontages.
Projecting Height	The vertical dimension of an element extending above the height of a building
Projecting Sign	Signs that project from the facade of a building. For example, marquees, awnings (canopy), and blade signs all constitute a projecting sign.
Public	Open to or owned by the public
Rear Yard	Minimum length (feet) from rear lot line to foundation line of structure.
Regulating Plan	The approved plans that control and inform the proposed development and its physical impacts on surrounding areas, facilities, and systems for the Lower Hill
Regulatory Sign	Signage that denotes street names and addresses installed according to State and Local standards that is used for emergency access.
Residential	Attached and detached single-family and multi-family dwelling units, whether for rental or ownership
Ribbon Window	Continuous narrow bands of glass that wrap around a building.
Right-of-Way	Refer to the Zoning Regulations
Roof-Mounted Sign	Signs that are mounted to the roof of a structure.
Roof Pitch	The ratio of the rise of the roof to its length

Sandwich or A-Frame Sign	Two boards facing opposite directions hinged at the top to create a self-supporting advertisement
Semi-public	Partially accessible or visible to the public, privately controlled
Service Location	Location for dumpsters, compactors, or any other service function that requires regular access from service providers.
Shopfront	A traditional means of advertising goods, services, and enterprises along streets and public spaces
Side Yard	Minimum length (feet) from the side lot line that the above-grade foundation line of conditioned space may locate
Site Plan	A drawing that expresses the layout of a building or buildings and its immediate context
Special Use	Uses identified in accordance with the Zoning Regulations that require approval from the Commission.
Special Event Sign	Signs that advertise limited time-frame events within the Lower Hill
Special Use Permit	Administered by the Commission for those uses identified in The Code as Special Uses in accordance with the Zoning Regulations
Stoop	A small exterior entrance outside of a door
Stormwater Management	The regulation of the amount and quality of stormwater that is held on site and either released, stored, or infiltrated into the ground.
Street Network	The organization of interconnected streets



Street Type  
Classification of streets based on dimension and design and volume characteristics

Structural Bay  
Vertical organization of a building’s facade along structural elements such as a wall, pilaster, column, or other vertical structural device. Structural Bays organize window and door placement as well as signage and lighting locations.

Suspended Sign  
Signs that hang from the overhead structure above a pedestrian walkway or underneath an arcade.

Terrace  
An open platform that extends from a building

Tower  
Part of a building that is articulated and taller than the rest of the building; may also stand alone

Transparency  
A window or clear surface unobstructed by signage, interior graphic elements, reflective coating, translucent or textured finish, racking or any type of fixed furniture that can be seen from both the interior and exterior of the a structure.

Travel Lane  
The section of a street intended for vehicular circulation

Umbrella Sign  
Signs used to shade tables and that are used by eating establishments to add vibrant color to outdoor spaces and to create attractive outdoor seating areas.

Upper Floor Height  
Floor-to-floor height in feet of any non-ground floor of the Main Body

Upper Floor Transparency  
Percentage of a building’s facade on its upper floors that must be glazed within the Build-To Zone

Upper Floor Use  
The permitted uses of any floor above the ground floor

Vista Terminus  
A framed view ending at an iconic feature or building

Wall-mounted Sign  
Signs that are attached flat to the wall or signs that become an integral part of the architectural detailing of the building

Wayfinding  
The orientation of users in an environment

Wayfinding Sign  
Signs noting the relative location of different uses and destinations including businesses, parks, and landmarks.

Window Signage  
Any form of identification of a building or its use applied directly to its windows

Wing  
A section of a building that extends out from the Main Body