

SDP-7354-2016
6/27/16

PLANNING AND CODE ADMINISTRATION

City of Gaithersburg · 31 South Summit Avenue · Gaithersburg, Maryland 20877 · Telephone: (301) 258-6330 · Fax: (301) 258-6336
plancode@gaitthersburgmd.gov · www.gaithersburgmd.gov

SITE or SCHEMATIC DEVELOPMENT PLAN APPLICATION

All information must be complete to initiate processing of application

SUBJECT PROPERTY

Street Address or Location 1000 Fields Road

APPLICANT/BILLING CONTACT

Business Name VII Crown Farm Owner, LLC c/o Westbrook Properties

Primary Contact Attn: David Ramsey

Street Address 10740 Parkridge Boulevard

Suite No. 110

City Reston

State Virginia

Zip Code 20191

Telephone Numbers: Work (703) 391-7258 Cell _____ E-mail Address DRamsey@wbproperties.com

OWNER

Business Name VII Crown Farm Owner, LLC c/o Westbrook Properties

Primary Contact Attn: David Ramsey

Street Address 10740 Parkridge Boulevard

Suite No. 110

City Reston

State Virginia

Zip Code 20191

Telephone Numbers: Work (703) 391-7258 Cell _____ E-mail Address DRamsey@wbproperties.com

DEVELOPER

Business Name _____

Primary Contact _____

Street Address _____

Suite No. _____

City _____

State _____

Zip Code _____

Telephone Numbers: Work _____ Cell _____ E-mail Address _____

ATTORNEY

Business Name _____

Primary Contact _____

Street Address _____

Suite No. _____

City _____

State _____

Zip Code _____

Telephone Numbers: Work _____ Cell _____ E-mail Address _____

ARCHITECT

Business Name _____

MD Registration No. _____

Primary Contact _____

Street Address _____

City _____

State _____

Telephone Numbers: Work _____ Cell _____ E-mail Address _____

Joint Hearing - MCC & PC
SDP-7354-2016
1

ENGINEER

Business Name VIKA Maryland, LLC MD Registration No. _____
 Primary Contact Mike Goodman
 Street Address 20251 Century Boulevard Suite No. 400
 City Germantown State Maryland Zip Code 20874
 Telephone Numbers: Work (301) 916-4100 Cell _____ E-mail Address goodman@vika.com

PLAN TYPE (check one only) Concept Preliminary Final Schematic Development

PROPOSED PRIMARY USE (check one only) Residential Non-Residential Mixed Use

PROPOSED UNIT TYPE

<input type="checkbox"/> Office/Professional	<input type="checkbox"/> Restaurant	<input checked="" type="checkbox"/> Retail/Commercial
<input checked="" type="checkbox"/> Residential Single Family	<input type="checkbox"/> Mixed Use	<input checked="" type="checkbox"/> Residential Multi-Family
<input checked="" type="checkbox"/> Other Use (specify) _____	APARTMENTS	

PARKING Parking Waiver Needed Height Waiver Needed

Number of Spaces Required 1630

PROJECT DESCRIPTION

Residential development of Neighborhood 3 & 5, with 15,000 GLA retail space in Neighborhood 5.

SITE DETAILS

Site Area Square Feet	<u>1,829,293</u>	Number of Lots	<u>298</u>
Site Area Acres	<u>41.99</u>	Number of Dwelling Units/Acre	<u>20.9</u>
Green Area	<u>19.63</u>	Parking Spaces Provided	<u>1884</u>
Green Area %	<u>46</u>	Height of Tallest Building (ft.)	<u>125'</u>
		Height of Tallest Building (stories)	<u>9</u>

SQUARE FOOTAGE - NON-RESIDENTIAL

Retail	<u>15,000</u>	Office/Professional	_____
Restaurant (A)	_____	Educational/Institutional/Religious	_____
Restaurant (B)	_____	Industrial	_____
Restaurant (C)	_____	Other (please specify)	_____

UNIT COUNTS - RESIDENTIAL

Single Family Detached Units	<u>44</u>	Apartment Units	<u>445</u>
Townhouse Units	<u>244</u>	Condominium Units	<u>64</u>
Duplex Units	<u>80</u>	Other (please specify)	_____

Total Number Residential Units 877

SEE FOLLOWING PAGES FOR SUBMISSION REQUIREMENTS

VII CROWN FARM OWNER, LLC

September 15, 2016

Mayor and Council & Planning Commission
City of Gaithersburg
31 South Summit Avenue
Gaithersburg, MD 20877

Re: Crown – Neighborhoods 3 and 5
Schematic Development Plan (“SDP”) Application Summary Letter

Dear City of Gaithersburg Mayor, Council, & Planning Commission:

VII Crown Farm Owner, LLC is pleased to submit an application for SDP approval for Neighborhoods 3 and 5 at Crown and is providing the following narrative to accompany our submission.

Project Description

Neighborhoods 3 and 5 are located directly east of Decoverly Drive and south of Fields Road. They comprise the final two sections of residential development within Crown. We are very proud of the accomplishments in Neighborhoods 1 and 2 and foresee Neighborhoods 3 and 5 as being complimentary, yet distinct. The combination of land uses, building typology, streetscape, and quality of public spaces will complete the Crown community and create a memorable, identifiable, and unique addition to the City of Gaithersburg.

Neighborhood 3

Neighborhood 3 (“N3”) is a medium-density residential district with a variety of housing types. It will consist of approximately 432 total units, comprising single family detached, single family attached, 2-over-2 condos, and multifamily condos. This product mix will continue to embrace the success within the existing residential neighborhoods and remain within the parameters of our Annexation Agreement and Sketch Plan, while also responding to market demand. Our townhouse and multifamily products have been embraced by the market and proven to be more desirable for those looking to live in Crown. As a result of this popularity, we have designed N3 with a higher ratio of attached product compared to single family detached, and maintained a walkable, active neighborhood with appropriate density to encourage cohesiveness with the surrounding community.

The HOA structure for N3 residents will be similar to those in Neighborhood 2 (“N2”). For fee-simple owners, membership will be within two separate associations, consisting of a master HOA covering all of Crown and a sub-HOA covering N2/N3. For condo owners, membership will be within three separate associations, consisting of a master HOA covering all of Crown, a sub-HOA covering N2/N3, and a condo association specific to the applicable condo owners.

Neighborhood 5

Neighborhood 5 (“N5”) is planned for a 4-9 story building with up to 445 living units, as well as a commercial component up to 10,000sf. N5 is approved for a building up to 20 stories, a concept that was carried over from the original sketch plan. When we re-planned the site and revised the sketch plan, we shifted the density from N5 to N1, as we envisioned N1 to be the heart of Crown. In doing so, the option remained for N5 to accommodate up to 20 stories to provide flexibility with what the market would ultimately demand in this location. In recent months we have been in conversation with several multi-family developers to gauge interest in N5, and our findings conclude there is currently no demand to build more than 400 units. Based on our solicitation, the table below summarizes the desired number of units from each developer:

Developer	Proposed # of Units
1	400
2	400
3	390
4	368
5	329

We feel we have hit an optimal spot within the market with Crown’s existing product and pricing, as the residents, tenants, and visitors have all embraced its success. Taking this into consideration, allocating up to 445 units over 4-9 stories in N5 will allow for a mid-rise building that can be built as wood frame over concrete podium, affording us the ability to maintain pricing consistent with market demand. Allocating our remaining density in a 20 story building would create a “tower”, dissimilar to anything else within Crown, and the associated construction costs would drive up prices, ultimately jeopardizing timing and build out.

Although we are still in the process of testing the market to find and identify the best fit for the commercial space, we foresee one larger to several smaller retail or service uses focusing on neighborhood and future CCT commuters’ daily needs. In addition to the building having its own private amenity, N5 residents will be able to access and utilize Crown’s central recreational amenity, known as The Retreat, on an annual fee basis, similar to what is provided to residents of the Crown Stacked Condominium Association located in N1. Parking for N5 will be located within a podium level and below-grade parking structure.

Community Design

Consistent with our existing development, our design is focused on creating a sustainable, more urban lifestyle where pedestrian, automobile, and transit can safely coexist within tree-shaded neighborhoods and ample park space. The road types and dimensions will be similar to those developed in N2, and the streets will create a similar pattern of blocks with pedestrian friendly intersections. One-way streets are provided next to our central open space in Block X, enhancing the park setting by reducing adjacent traffic. On-street and off-street parking has been strategically located to maximize available guest and visitor parking within each block. Off-street parking has

been provided through garage and driveway spaces, available at 2 per unit for the 16' townhomes, 2-over-2 condos, and single family detached, and 4 per unit for the 20', 24', and 28' townhomes.

N3 takes advantage of open space and park design to create a strong sense of community and place. A tree-lined, grassy boulevard creates a green axis encouraging pedestrian circulation while also strengthening continuity and the leafy, tree-shaded aesthetic within the community. Smaller pocket parks are integrated within the design to vary the character of N3. Parks will serve as community gathering spaces and provide passive and active recreation opportunities. Benches, landscaping, and other site furnishings will be blended with formal hardscape and less formal green areas to create a consistent theme within the park areas.

Our landscape design incorporates planting types and locations based on ecological functions within the site and the need to define and enhance certain areas. Hardscape components and site furnishings will be blended into the overall design to maximize aesthetics and usability of the open areas. Best practices in storm water management are evident through our green street design and various ESD facilities. For example, green streets are incorporated along Crown Park Avenue to enhance overall water quality while simultaneously adding aesthetic value to our main pedestrian thoroughfare.

Architecture

The architecture within N3 and N5 will continue to create the strong sense of place and special community identity associated with Crown. To ensure cohesiveness with the existing development, the concept architecture we are proposing is consistent with that found in N1 and N2, while also providing some flexibility to evolve. It is diverse, and will conform to a more urban appearance by incorporating certain building elements, details, materials, and street façade components typically found in many attractive urban neighborhoods.

The multi-family building in N3 is a product that has been successfully implemented in other projects in the Metropolitan DC area. With the front of the building highly visible from Decoverly Drive, and the rear serving as a termination of the linear park, we have established a canvas upon which the ultimate builder can design appropriately detailed and identifiable façades to complement its location. Further, the building is broken into two distinct pieces with an opening creating a visual corridor aligned with the linear open space. The parking is located underneath the residential units, similar to the multi-family building recently approved in N1. The building's efficient parking design uses traditional and tandem spaces in the garage, and the nearby on- and off-street parking allows residents' visitors nearby parking options as well.

The building we envision for N5 is a figure-eight shaped mixed-use building with interior courtyards. The overall massing utilizes the site's topography and natural slope to balance the vertical scale of the multi-story structure. The residential entry is located mid-block to best serve the residents of each side of the building. The length of the building is minimized by a series of projecting balconies designed in a contemporary style, but evocative of landmark residential buildings. The residential dwellings located above the retail are boldly framed to differentiate the façade. The building will serve as a cornerstone at the intersection of Decoverly Drive and Fields Road, anchored by vertical signage located at this primary corner location.

WSSC Water Main Replacements

There are two existing WSSC large-diameter water mains directly underneath proposed Street "P". We will have both of these water mains replaced at our expense. The existing 36" main will be replaced with ductile iron pipe, and the 60" main will be replaced with welded steel pipe. We are in the process of finalizing our plans and approvals with WSSC and expect the work to start in 2016 and be completed by spring 2017. As such, we anticipate both replacements to be completed prior to vertical construction starting in N3 and N5.

Project Phasing

Development and construction will be phased. We plan to start in N3 with the 64 multi-family units adjacent to Decoverly Drive and continue to build east from there. Dependent on market conditions, we anticipate development of N5 to begin after N3 is underway, most likely in late 2017 or early 2018.

Conclusion

In summary, we feel N3 and N5 promote the smart growth and urban planning that has become expected at Crown through appropriate density, walkable block patterns, diverse building types, and sustainable site design. This plan maximizes quality of life and land-use knitted into the fabric of Crown and adjacent neighborhoods, which will provide long term benefits to its residents as well as the City of Gaithersburg. We look forward to receiving your approval and building on our positive relationship with the City as we continue through this final phase of entitlement and development.

Sincerely,



David Ramsey
Westbrook Properties

CC: Scott Wallace, Linowes & Blocher
Mike Goodman, VIKA

CROWN NEIGHBORHOOD THREE & FIVE
DESIGN GUIDELINES

N3 & N5

INTRODUCTION

Table of Contents

Introduction	2
Urban Design	4
N3 and N5 Overview	5
Circulation	6
General Building Heights	7
Program Plan	8
Density	9
Neighborhood Identity and Signage	10
Architecture	11
Design Principles	12
Key Lot Plan	14
Town House & 2/2 Design Guidelines	15
Multi Family Design Guidelines	16
Single Family Design Guidelines	17
Materials Guidelines	18
Multi Family Design Guidelines - N5	19
Materials Guidelines- N5	20
Commercial and Ground Floor	21
Storefront Design Guidelines	22
Landscape and Hardscape	34
General Landscape Guidelines	35
Open Space Diagram	37
Tree Palette	38
Street Trees	40
Bioretention	41
Unit Typicals	42
Metal Picket Fencing	46
Screening	47

Introduction

The N3/N5 design guidelines are intended to be complementary with the N2 guidelines and although it is not the intent to create a separate and distinct neighborhood, it is the intent to present an evolution of the architecture and design. They will also guide civil engineers and landscape architects tasked with the design and implementation of the public realm to a similar end and in a similar way. These neighborhood design guidelines will also be compatible with any and all previously approved design guidelines.

Neighborhood three (N3) and Neighborhood five (N5) are designed with a focus on pedestrian and bike circulation throughout the neighborhood. The street and path network maximizes connections to ensure walkability and bicycle friendliness.

The streets of N3 and surrounding N5 are designed to create a similar orthogonal pattern of blocks to the N2 street grid. The main streets that border the perimeter limit street connections and full movement intersections with the adjacent Neighborhood 2. However, N3 is designed to make a primary connection with N2 through Decoverly Drive at Crown Park Avenue. Due to the transit corridor, and limited crossings at Decoverly, this is the lone street connection to N2. The road dimensions and types are predominately the same across N2 and N3. The physical details of the architecture will ensure that the new buildings retain legibly common characteristics, even if the architects choose a slightly different design direction.

Through diagrams, photographs, and text, these design guidelines will provide an appropriate framework for all public and private construction at Crown.



Purpose of the Guidelines

The Crown Design Guidelines for N3 and N5 create a complementary yet distinct framework for an inclusive sustainable community that aspires to high environmental standards, provides a high quality of life for its residents, and has its own unique identity, while remaining integrated within its larger context. The purpose of the guidelines is to:

1. Enhance and protect the Crown quality of life and community image through clearly articulated goals and policies, guidelines and minimum standards;
2. Promote long term sustainable and economic vitality through design standards which encourage and reward high quality development, while discouraging less attractive and less enduring alternatives;
3. Minimize adverse impacts of vehicular circulation to existing neighborhoods and to the surrounding physical environment;
4. Enhance and protect the security, health, safety and welfare of the residents.

Organization of the Guidelines

The development is organized as a series of neighborhoods that allow for a variety of housing types and land uses to coexist. In order to ensure coherence in the visual experience of the built project, these guidelines are organized into four distinct sections - Urban Design, Landscape, Architecture, and Neighborhoods.

The Urban Design section lays out the design principles which govern the development, the overall site organization, massing guidelines, and architectural and landscape standards.

The Landscape section outlines minimum hardscape and planting requirements throughout the community to ensure a high quality public environment.

The Architecture section articulates the building design principles and specifies the material standard, facade treatment, and variety requirements.

The Neighborhood section provides guidelines that are specific to each neighborhood, while ensuring they reinforce the overall design agenda and principles specified in the Urban Design section.

Applicability and Use

The provisions of the guidelines shall apply to all development within Crown N3 and N5. The guidelines provide general design direction as well as development standards. Its primary purpose is to guide the project's design team. The guidelines will be utilized by the city staff, the Planning Commission, and the City Council to review development applications submitted under the City's Mixed Use Development development plan review process. The guidelines will also be used by builders and the Town Architect to guide the architecture of specific units prior to their submission to the city.

The goals and policies set forth in this document are expected to be met through compliance with all design standards and consideration of the design guidelines. Modifications to or waivers of design standards can be recommended as part of the city's MXD development plan review process.

The guidelines are to be used by property owners and applicants and their design consultants in the planning of development projects.

The plans included in the guidelines do not reflect the final site plan condition. These plans are subject to final approval of the Final site Plan.

Variations from design regulations & modifications

Modification or variance requests by the applicants to these design guidelines must be first approved by planning staff and ultimately is required to gain approval by the Town Architect or HOA then presented to the planning commission to be reviewed. The planning commission may approve or deny modification requests.

After initial outsales by the builders, subsequent modifications to the homeowners association documents shall be in accordance with these design guidelines.

All modifications or variance requests must comply with the city of Gaithersburg code.

These guidelines may be modified by the Planning Commission when the final site plan is reviewed.

Definitions

Please see page 4 of the N1 and N2 Design Guidelines, dated April 2011. All previously defined terms apply.

URBAN DESIGN

1

The Urban Design Guidelines delineate the basic variety in urban form expected for Crown. The combination of land uses, building typology, streetscape, and quality of public spaces outlined in the section will help make this new community a memorable, identifiable, and unique addition to the City of Gaithersburg. These guidelines will ensure that N3 & N5 will be unique from, but solidly related to, N1 & N2.

N3 & N5 OVERVIEW



Single Family:	44 units
Town House:	240 units
2 over 2:	80 units
Multi-Family (N3):	64 units
Multi-Family (N5):	up to 445 units

GENERAL CHARACTER

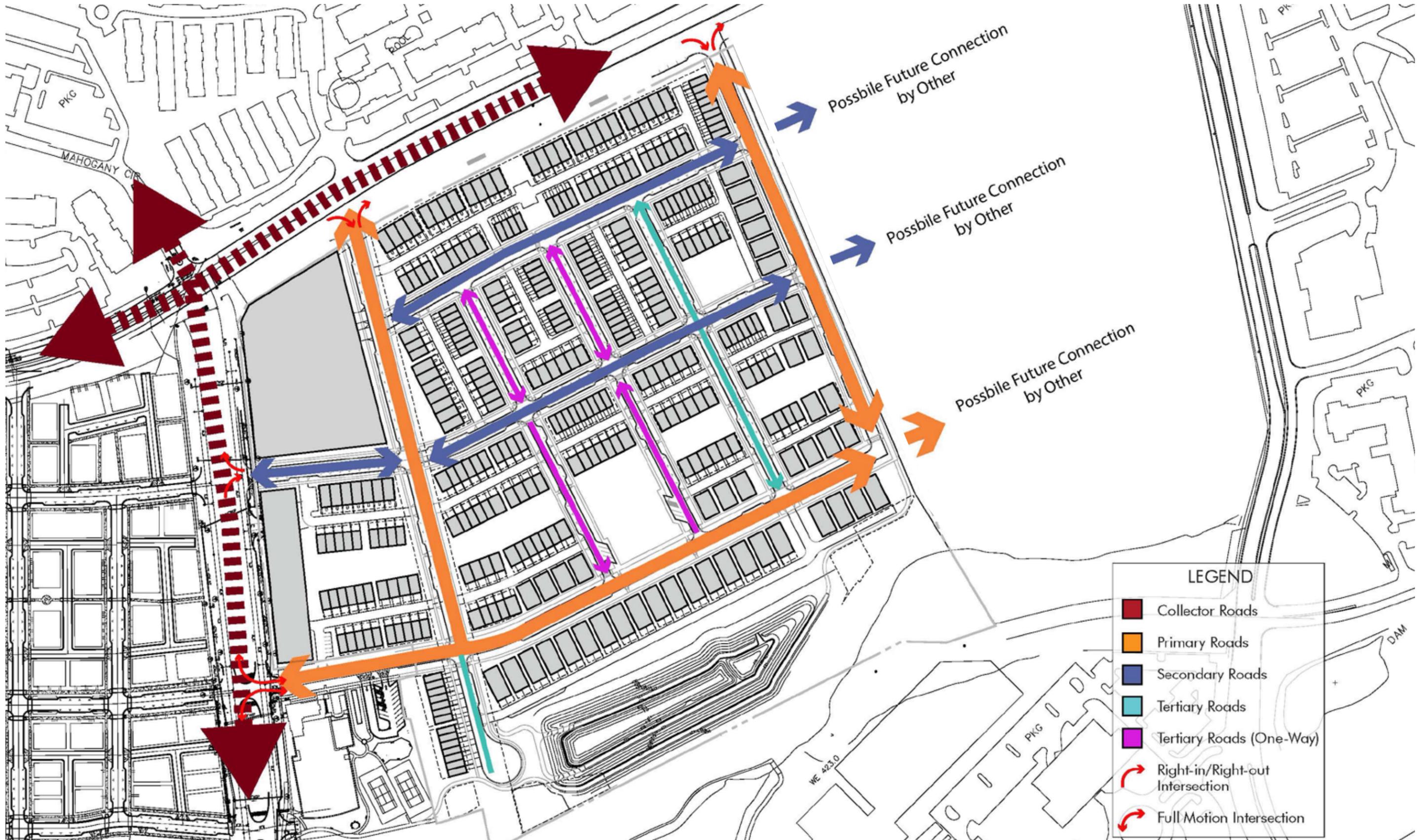
Neighborhoods 3 and 5 are located directly east of Decoverly Drive. They consist of approximately 46.3 acres. Neighborhood 3 is a medium-density residential district with a variety of housing types including single family detached houses, townhouses and multi family residential buildings. Neighborhood 5 will have a multi-family residential and commercial program.

Together they take advantage of open spaces, park design, and recreational open areas to create a strong sense of community and place. A system of linear parks creates a green axis emphasizing pedestrian circulation while it strengthens residential characteristics of the neighborhoods. Smaller scale pocket parks are situated in the design to vary neighborhood character. Differently sized housing types are grouped together to create lively and aesthetically pleasant neighborhoods.

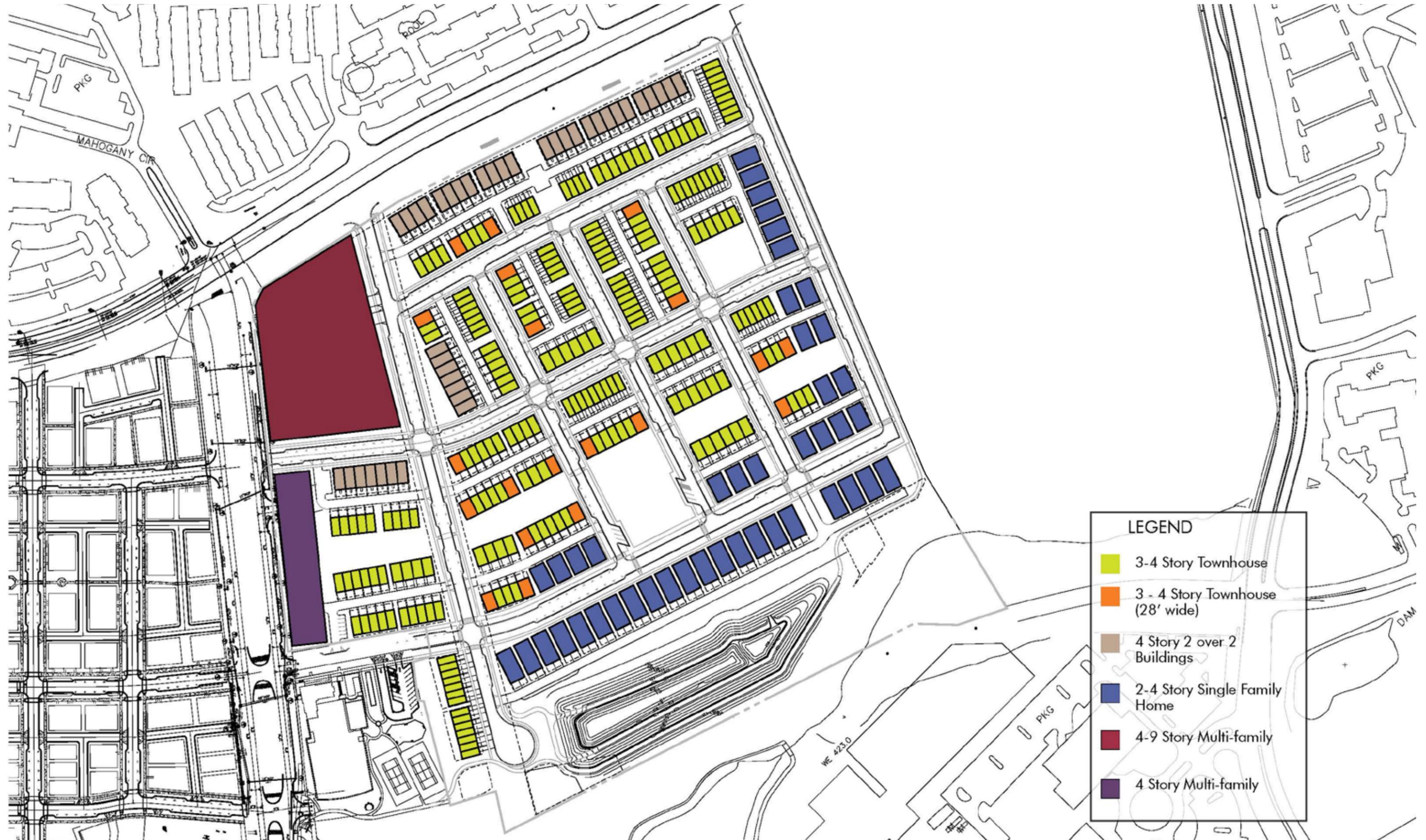
ARCHITECTURE

The design of different building types will add to community character without rigid aesthetic uniformity but will visually and physically relate to one another. The majority of the buildings shall conform to a more urban appearance. This will be achieved through character defining building elements, details, materials, and street facade arrangement prevalent in many attractive urban neighborhoods. Townhouse and multi-family structures have varied building heights. Varied material use is encouraged for building facades, balconies, and openings.

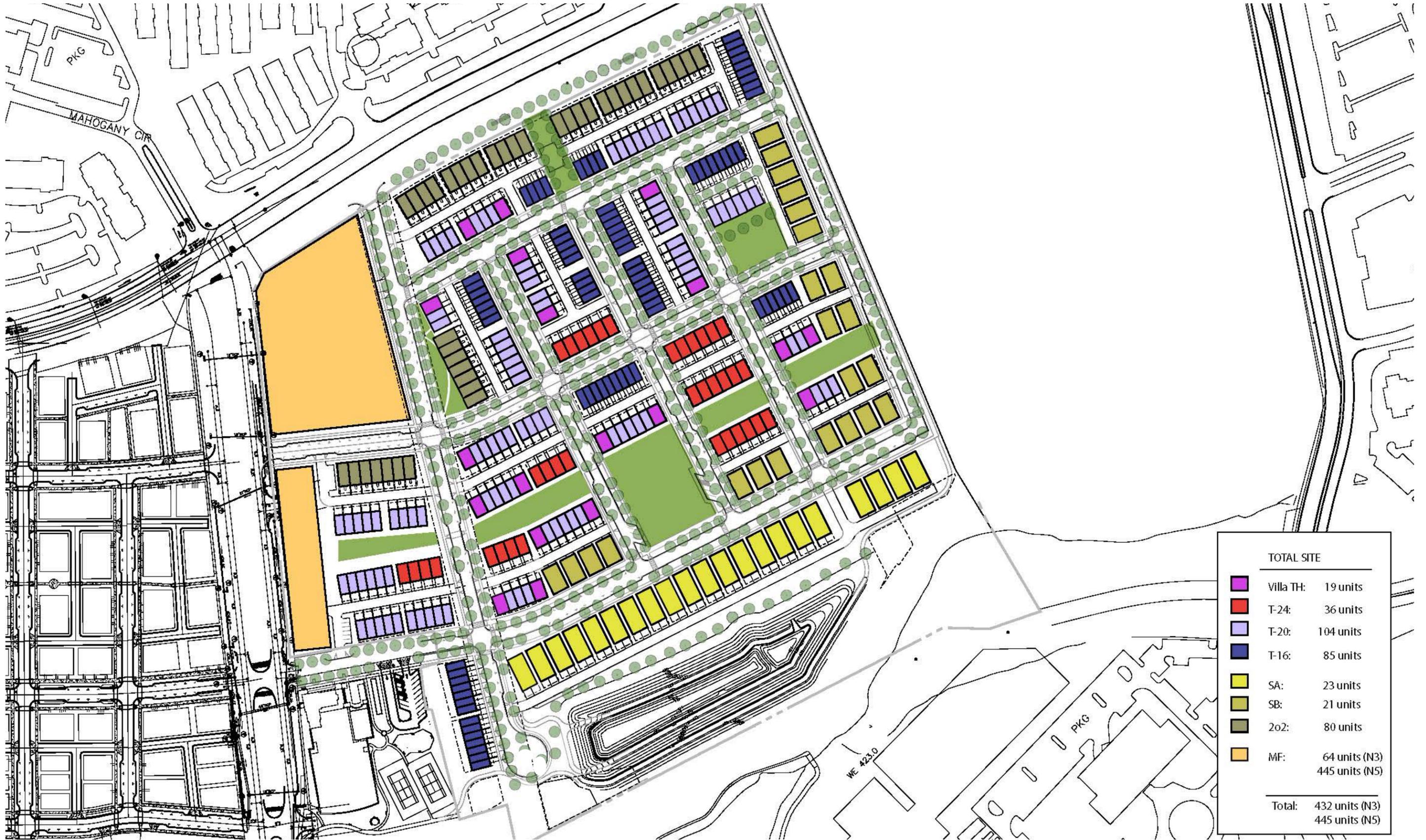
CIRCULATION & BLOCK PATTERN



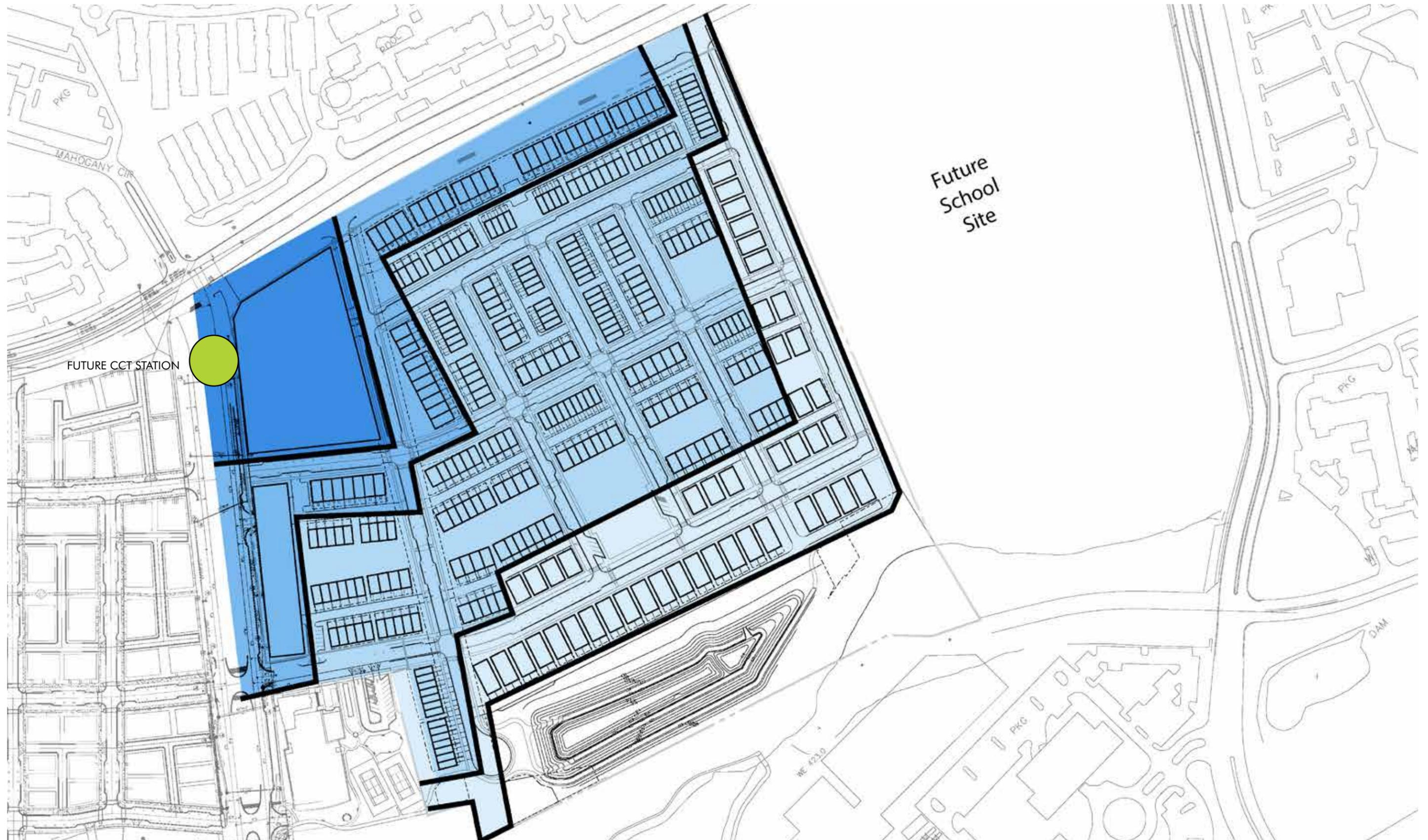
GENERAL BUILDING HEIGHTS



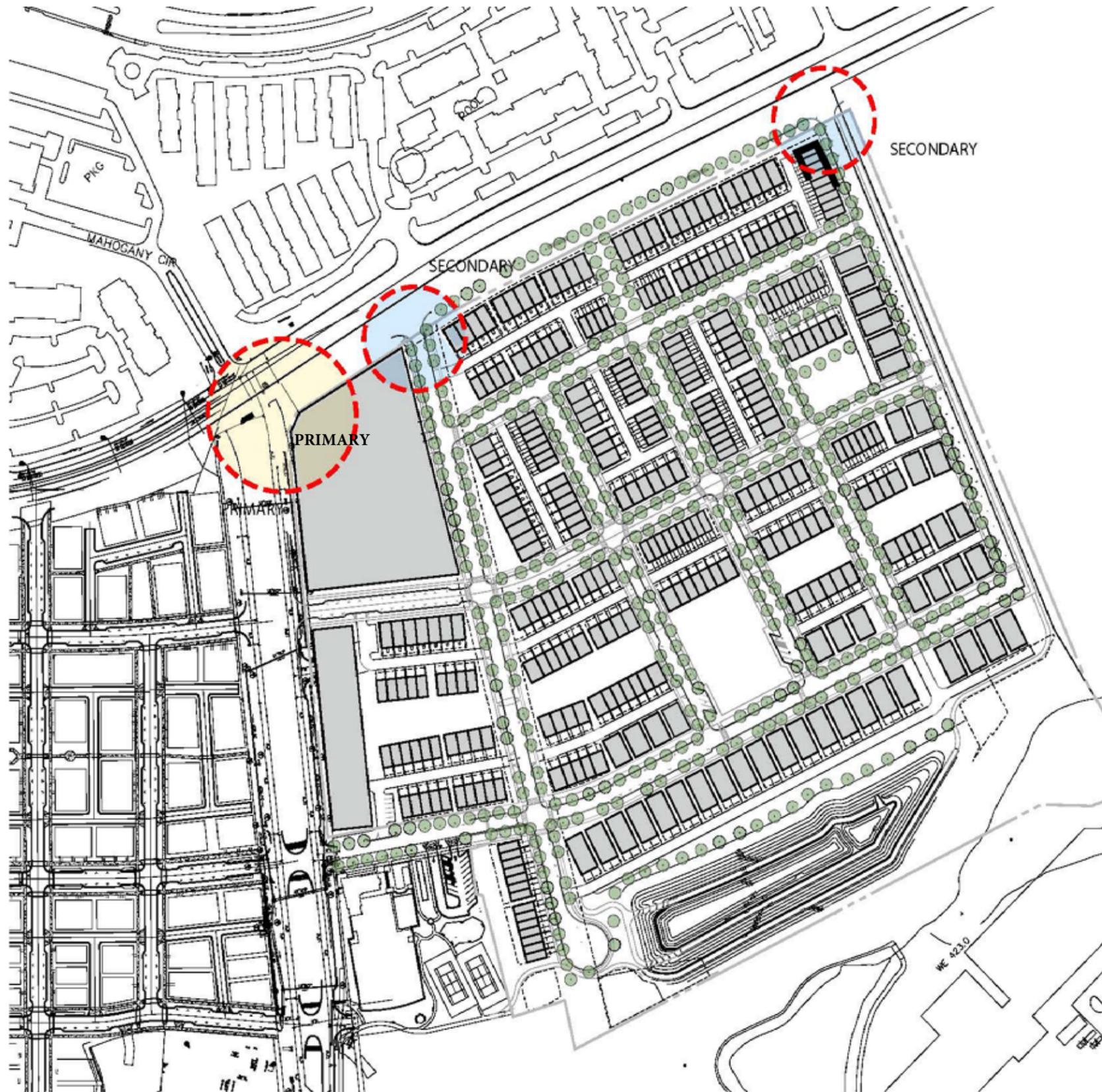
PROGRAM PLAN



DENSITIES CONCENTRATED NEAR MASS TRANSIT



NEIGHBORHOOD IDENTITY & SIGNAGE



PRIMARY ENTRY SIGNAGE: Primary entry signage will be located at the intersection of Decoverly Drive and Fileds Road, and should be a large scale element that serves as an icon, welcoming visitors when they arrive at Crown. It should be readable from major roads in order to capture viewer's attention and serve as a symbol for the neighborhood. Primary entry signage may have both the project branded iconic element and the name "Crown", depending on the size and location.

Free standing primary signage must sit on a stone, masonry, or precast base. The vertical portion of the signage feature may be masonry, stone, metal, or another comparable material that is visually consistent with the existing characteristics found within Crown. Internally illuminated box signs are not permitted. Letters or logos may be halo illuminated or face illuminated pan channel letters. Signage elements may also be externally illuminated from ground mounted lights. Freestanding entry signs may be no higher than 15 feet and may not exceed 150 square feet of surface area per side.

Primary entry signage on the N5 building shall not exceed 250 square feet, and shall be consistent with the dimensions and materials shown on the below concept rendering:



SECONDARY ENTRY SIGNAGE: Secondary entry signage shall support the message and identity established by the primary entry signage. These signs may flank all entries into N3 and N5, and will be subtler in expression and scale.

Free standing secondary signage must sit on a stone, masonry, or precast base. The vertical portion of the signage feature may be masonry, stone, metal, or another comparable material that is visually consistent with the existing characteristics found within Crown. Internally illuminated box signs are not permitted. Letters or logos may be halo illuminated or face illuminated pan channel letters. Signage elements may also be externally illuminated from ground mounted lights. Freestanding entry signs may be no higher than 10 feet and may not exceed 50 square feet of surface area per side.

BANNERS OR PAGEANTRY: Banners or pageantry add a level of color, pattern and texture that supports the design identity. The banners can be used as a community-wide graphic or could be used to support a special event. These elements may be attached to existing light poles or be part of a custom fabricated program. Banners would serve as a part of a graphic program that would celebrate the character of Crown.

The developer and/or management company will be responsible for the maintenance, removal and installation of these banners.

ARCHITECTURE 2

DESIGN PRINCIPLES

General Building Design Guidelines

These general building design guidelines are intended to encourage an architecture that is, in spirit, balanced between more traditional architecture found in N1 and N2, while allowing for flexibility to be more akin to the modern expression of traditional ideas found in the Community Amenity Building. It is the intention of these design guidelines to make N3 relate to N2 through its architecture and neighborhood scale.

To be very clear, the architecture of N3 shall have a strong design foundation that comes from traditional architectural ideas and forms. In this way, multiple architectural stylistic expressions will naturally arise.

These guidelines are to be general principles of design for the architecture in neighborhoods 3 and 5

1 Articulate Massing and Facades



- Promote a building design that helps animate and add interest to the overall public & residential space experience via the interplay of light & shadow, opaque vs. transparent surfaces, texture, color & elevation depths.
- Articulation of distinct masses is encouraged to add interest to the skyline and creating diversity among the builders with the same product types.

2 Build in Tradition of Simple Yet Elegant Design



- Building architecture and elevations shall express a more contemporary design idea through the use of simple unifying roof and window lines, and careful selection of materials, yet still be rooted in traditional concepts.

3 Use Traditional High Quality and Durable Materials throughout the Community



- Brick, stone, stucco, shingles, and cement fiber siding may be used in ways that reinforce the appearance of the architecture.

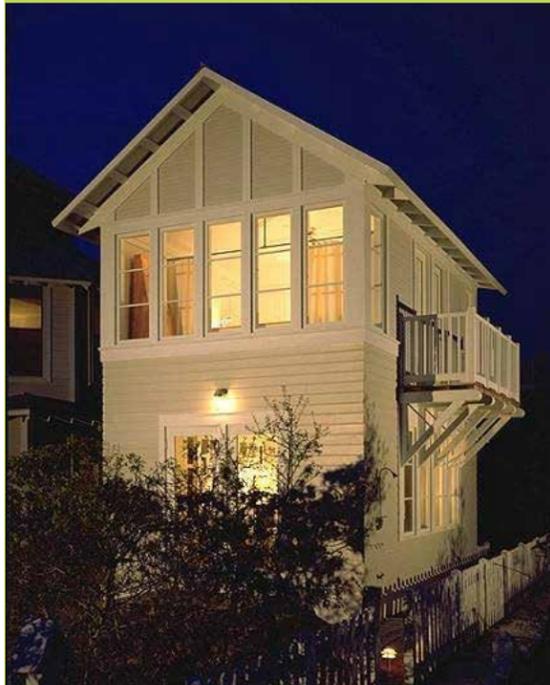
4 Embellish the Streets with Outdoor Spaces including Terraces, Stoops, and Balconies.



- The relationship between the street and building facades is augmented by porches and balconies, which are deep enough to offer an outdoor retreat for the resident. Such spaces highlight street activity and offer a more interesting experience for the pedestrian.

5

Compose facades with a clear sense of hierarchy



- Overhangs, trellises, balconies, and porches can add interest and hierarchy to a facade composition. Window groupings, entraces and selective use of details can bring focus to important facade elements and add to the overall order of the building and neighborhood.

6

Design Building Faces that Respond to Various Streets and Open Spaces



- Where possible, buildings should incorporate architectural elements such as wrap-around porches, bay windows, chimneys, and pronounced entryways.
- The buildings should, in general, be aware of their placement in the urban design scheme, and have architectural expressions appropriate to their role in the urban scheme.

7

Use Combinations of Roof Forms to Distinguish Neighborhood Character



- Identity and distinction are important features of the architecture of Crown. Using varying roof forms such as gable, hip, flat and pitches roofs add value and character to different neighborhoods.

8

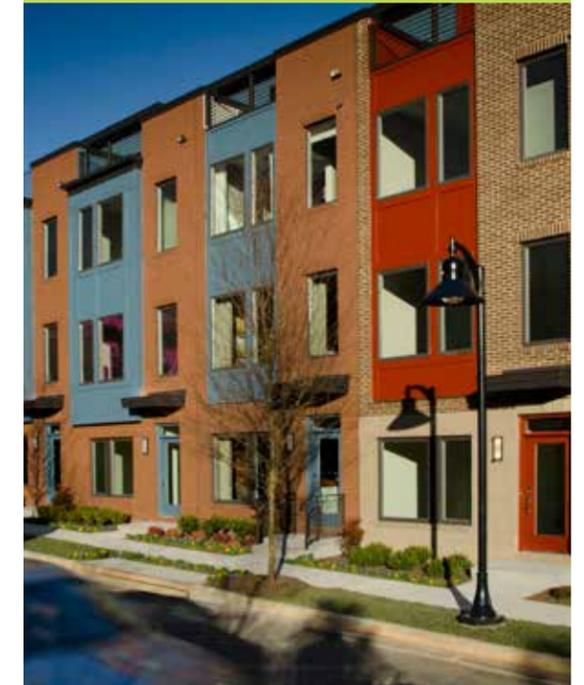
Emphasize Main Entries of Buildings



- Primary building entrances should be easily identifiable from a distance.
- The entry may be reinforced architecturally through door surrounds, changes in texture, solidity of surface to make entrances obvious and celebratory.

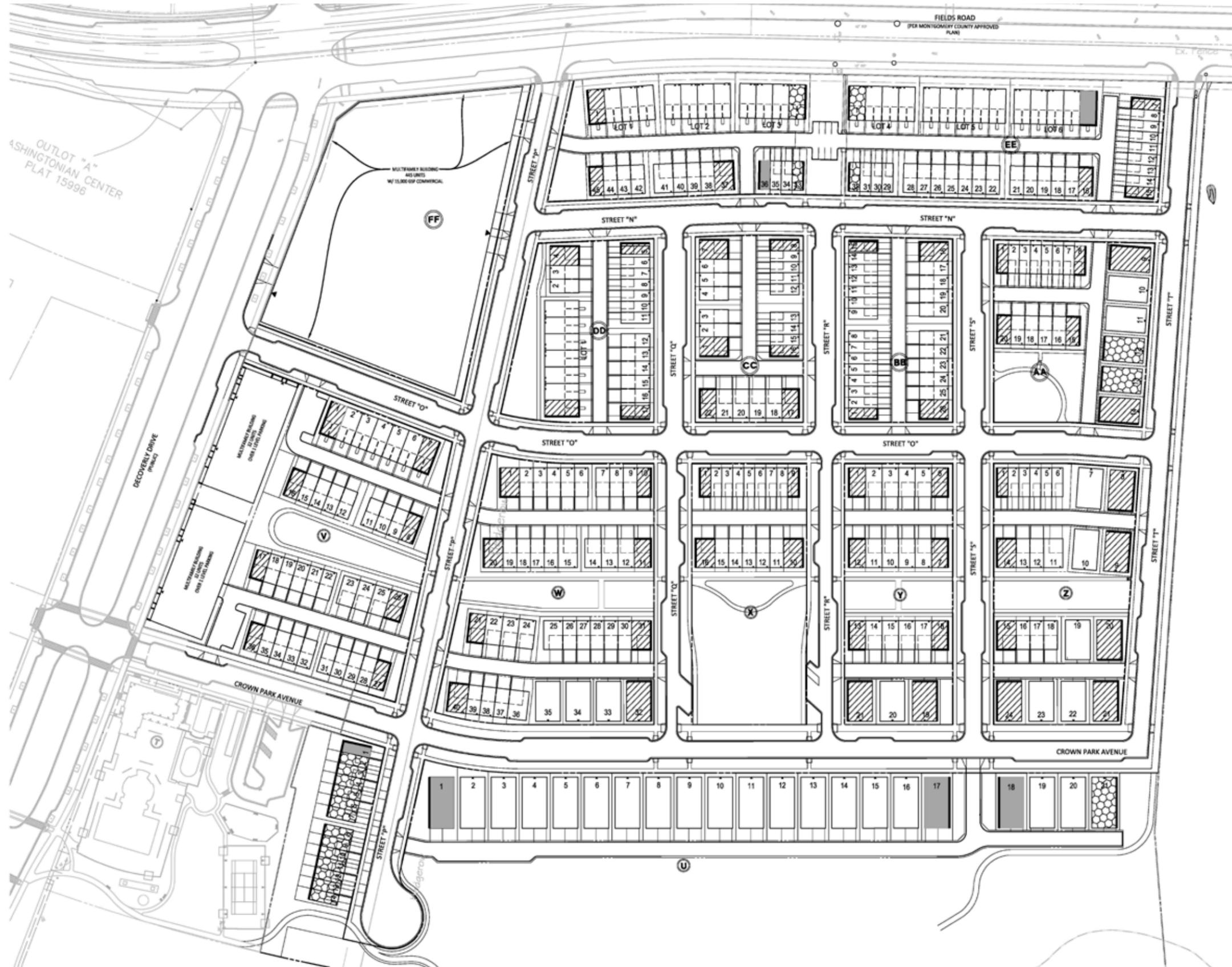
9

Screen Mechanical Units



- Mitigate the visual impact of mechanical equipment, & other utilities that are visually obtrusive. Screen roof top mechanical units when possible. Through wall mechanical units shall be thoughtfully designed into a building's facade, located in areas that minimize visual impact, and camouflaged with paint/materials.
- Units located behind buildings should also be screened.

KEY LOT PLAN



End Unit Key Lot

The residential unit located at the end of a row will be treated with a constant palette of materials on the front and side elevations. The percentage of materials used to treat the front and side elevations may vary.

Alley Entrance Key Lot

The first residential unit located at the alley entrances will be treated with a consistent palette of materials on the front, side, and rear elevations. The percentage of materials used to treat the front, side, and rear elevations may vary.

* All front elevations are treated. Additional treated elevations outlined in bold.

Open Space Key Lot

TOWN HOUSE AND TWO OVER TWO DESIGN GUIDELINES

1

Create sustainable, urban row houses that support healthy and safe streets



- Stoops are encouraged as a way of creating a sense of community
- Front gardens with local plants and tree species are encouraged

2

Articulate massing and facades



- Promote a building design that helps animate and add interest in the overall public space experience via the interplay of light and shadow, opaque vs. transparent surfaces, texture, color and elevation depths.

3

Make front entrances clearly defined and interesting



- Use architectural expression to clearly announce the primary entrance.
- This can be done through door surrounds, small roof forms, stoops, etc.

4

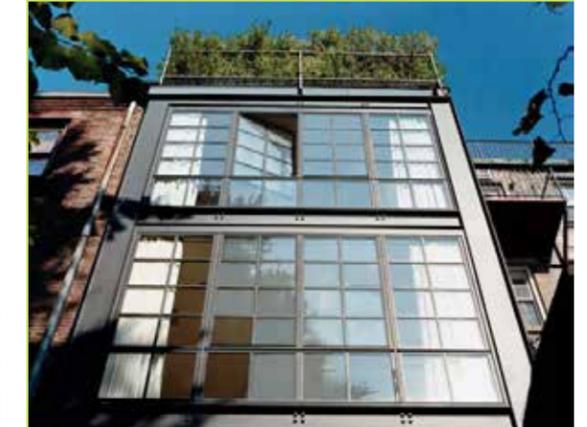
Design row houses that are contemporary but which find inspiration in traditional architecture



- Contemporary expressions of traditional architectural forms, from porches, roof forms and stoops to window details, brick patterns and geometries are all opportunities with rich possibilities for architectural exploration

5

Build row houses that use punched openings & contrasting metal bays and lofts



- Punched openings should be the normative condition of all fenestration.
- Bays and top floor lofts of contrasting color and material are great opportunities for architectural and design contrast.

MULTI-FAMILY DESIGN GUIDELINES

1

Create sustainable, urban buildings that may include excellent storefront design



- Broad, welcoming front entrances are encouraged
- Gardens with local plants and tree species are encouraged

2

Articulate massing and facades with appropriate variation



- Promote a building design that helps animate and add interest in the overall public space experience via the interplay of light and shadow, opaque vs. transparent surfaces, texture, color and elevation depths.

3

Make front entrances clearly defined and interesting



- Use architectural expression to clearly announce the primary entrance.
- This can be done through door surrounds, roof forms, stoops, etc.
- Porte Cocheres are allowed

4

Design buildings that are contemporary but which find inspiration in traditional architecture



- Contemporary expressions of traditional architectural forms, from porches, roof forms and stoops to window details, brick patterns and geometries are all opportunities with rich possibilities for architectural exploration

5

Build buildings that use punched openings & contrasting metal bays and lofts



- Bays and top floor lofts of contrasting color and material are great opportunities for architectural and design contrast.

SINGLE -FAMILY DESIGN GUIDELINES

1

Create sustainable, single family houses that support healthy and safe streets



- Stoops are encouraged as a way of creating safe streets
- Front gardens with local plants and tree species

2

Articulate massing and facades



- Promote a building design that helps animate and add interest in the overall public space experience via the interplay of light and shadow, opaque vs. transparent surfaces, texture, color and elevation depths.

3

Make front entrances clearly defined and interesting



- Use architectural expression to clearly announce the primary entrance.
- This can be done through door surrounds, small roof forms, stoops, etc.

4

Design houses that are contemporary but which find inspiration in traditional architecture



- Contemporary expressions of traditional architectural forms, from porches, roof forms and stoops to window details, brick patterns and geometries are all opportunities with rich possibilities for architectural exploration

5

Build houses with porches, stoops & other gestures towards living in a *community*



- Single family houses with clear front porches and stoops are to be very much encouraged.
- Porches may be one or several stories tall.
- Porches encourage occupation of a middle zone between public and private that improves community connections, safety and sense of place.

MATERIALS GUIDELINES - N3

Walls

Building walls will be constructed of the following materials. When constructed of more than one material, changes in material are permitted along a horizontal or vertical line.

Brick

- Brick will be coursed in Common Bond, Flemish Bond, Herringbone, Basket Weave, or other decorative bond.
- A variety of brick colors, modules, and finishes will be allowed. Painted brick, in keeping with the traditional treatment of brick in Washington, DC and the mid-Atlantic region, is also allowed.

Siding

- Cementitious or fiber board, or its equivalent, is an acceptable siding material where brick and stone are not required. Wood clapboard siding, and board & batten, running horizontally or vertically, are permitted as well.
- Cementitious Panels are allowed
- Aluminum and vinyl siding are not permitted.
- Siding joints will be caulked, painted, or installed according to manufactures instructions.
- Siding can be lapped, board & batten, or Dutch-lapped.
- Use appropriately scaled trim when using siding or shingles.
- All siding corners are to be terminated with corner boards
- Stucco and EIFS are acceptable, though should be minimized

Walls, Continued

Stone

- Stone will be laid with a predominantly horizontal pattern, with generally rectilinear stones
- Cast stone will be permitted as sills, headers and accents
- Stone and/or brick may be used on any and all sides any building
- Stone walls will terminate with appropriate sills, caps, or intersections with other building elements
- Synthetic stone is strongly discouraged though not forbidden.

Bays

- Bays are allowed

Doors

- All exterior doors must be steel or wood, and must be painted or stained. All exterior doors will have glass, panels, or both. Vinyl or other cladding is allowed for secondary exterior doors though strongly discouraged
- Doors are permitted to be single doors, or French doors, and may include transoms. Sliding glass doors are allowed for secondary exterior doors
- Condo lobby doors on multi family buildings may be glass or glazed
- Garage doors may be made of wood, embossed hardwood, fiberglass, wood veneer, or steel.

Windows

- Windows may be single, double or triple hung, casement, or fixed as the need dictates. Transom windows are allowed but not required.
- Windows should be square or rectangular, and vertical in orientation. Circular, half round or elliptical accent windows are also permitted.
- Transom windows may be horizontal in orientation as is traditional.
- Window lights must be vertical in proportion.
- Window frames should be wood, steel or metal clad wood. Vinyl and PVC are allowable but are

Windows, Continued

- strongly discouraged.
- Roof skylights are permitted.
- If shutters are used, they must each be one half the width of the window. Working shutters are encouraged. Shutters, if employed, will be wood or metal.
- Efforts should be made to avoid having windows facing each other on adjacent lots
- Single hung windows are allowed, though strongly discouraged.

Roofs

Roof

- Pitched roof materials must be architectural grade shingles, slate, cedar shingles, imitation slate, standing seam metal or, if appropriate, solar panels may be incorporated into the roof. Non dimensional shingles are prohibited.
- Roof configurations must be simple, and pitched or flat. Gables, hips, and small ancillary shed roofs are permissible.
- Shed roofs will be pitched in only one direction relative to the body of the building.
- Roof penetrations will be as hidden as possible, and painted matte black, a color to match the roofing material, or left the natural color of the metal.
- No more than two materials are allowed on a given roof
- Parapet roofs are allowed for row houses, single family detached, 2/2s, and multifamily buildings.

Gutters & Downspouts

- Gutters will be half round, made of aluminum or copper.
- Copper gutters should not be painted, and should be allowed to retain their copper color or weathered patina.
- Aluminum must be prebaked or powder coated.
- Downspouts will match the material of the gutter.
- Downspouts will be located in a way that reinforces the façade organization.
- Downspouts will discharge directly into beds or collection systems- discharge directly onto

Roofs, Continued

- sidewalks, leadwalks, stoops, public rights of way, and public or private sidewalks is not allowed.
- Surface discharge into public alleys and driveways is permitted.
- Detached blocks & landscape materials at points of discharge are required. Examples include riverrock or similar, and lawn conditions.

Chimneys

- Chimney enclosure materials will complement the building facade
- Spark arresters will be painted black, unadorned, and not ornamental.
- Metal rooftop flues, if used, should extend no higher than the minimum required by the building code. Chimneys may extend past the minimum based on design considerations.
- Chimneys must be integrated with the design of the buildings, with material and color to match.

Porches, Stoops and Leadwalks

- Porch floors will be painted wood, composite, stone, concrete or brick
- Porch foundations may be masonry piers with framed wood lattice, wood boards or brick infill
- Stoops may be painted metal, stone or masonry.
- Stoops may project from the building or be suppressed into facades depending on need.
- Wood stoops may be used at secondary entrances, though this is not encouraged.
- Leadwalk material may be concrete, brick or stone.
- Porch railings will be a single material, such as wood or wrought iron, aluminum or vinyl.

Balconies and Decks

- Balconies and decks are allowed, using a complementary building material and/or a composite decking material

Roof Decks

- Roof decks may incorporate some form of temporary or permanent shading, be they trellises, awnings or other shading devices
- Roof deck railings will support the architectural concepts of the building

Variety

- Variety of facade types and expression is desirable insofar as it reduces overly repetitive streets. It is NOT desirable if it encourages arbitrary variety for its own sake.
- When introducing variety on a given street, avoid varying more than one of the following per house: color, material, height.
- On Crown Park Avenue, adjacent single family houses will include greater variation than in town house sticks, including color, projections, and roof expression.
- Strings of townhouses should be composed, such as singular architectural expressions which have symmetrical compositions, or incorporating *singular* variations per house per stick of: color, material, height, and width.
- Variety should be used in strategic ways to enhance the visual scene and bring interest to the urban condition. It should NOT bring confusion and visual noise.
- Each consecutive group of three adjacent single family detached houses will have distinct elevations with varied projections, roof lines, and color. Additionally single family detached houses adjacent to one another and across the street from one another shall have different elevation.
- No color schemes shall be repeated within three consecutive houses.

MULTI-FAMILY DESIGN GUIDELINES - N5

1

Create sustainable, urban buildings that may include excellent storefront design



- Broad, welcoming front entrances are encouraged
- Gardens with local plants and tree species as well as water-garden features are encouraged
- The storefront guidelines from the N1 booklet should be followed.

2

Articulate Massing and Facades



- Promote a building design that helps animate and add interest in the overall public space experience via the interplay of light and shadow, opaque vs. transparent surfaces, texture, color and elevation depths.

3

Make front entrances clearly defined and beautiful



- Use architectural expression to clearly announce the primary entrance.
- This can be done through door surrounds, roof forms, stoops, etc.
- Porte Cocheres are allowed
- Structured parking must be hidden from the street, and it is encouraged that vehicular entries shall not be visible from the primary entrance.

4

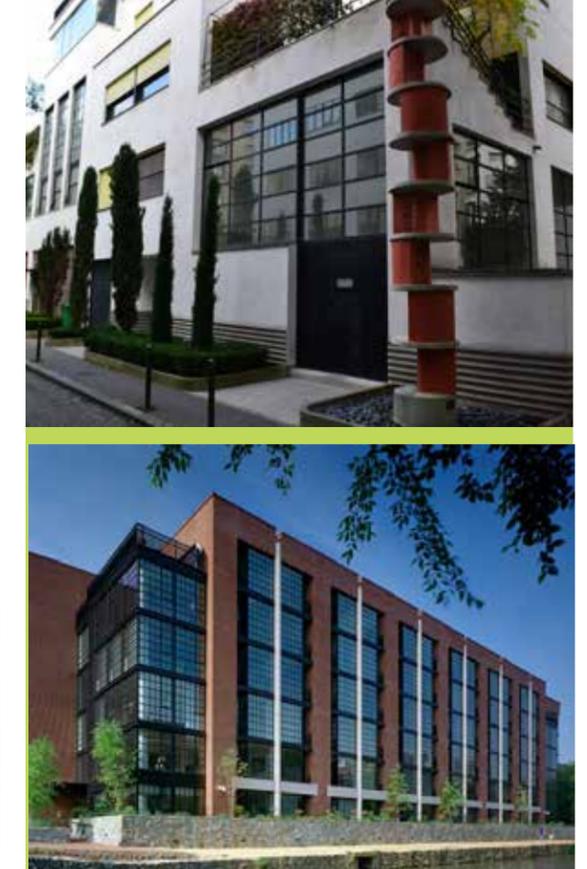
Design buildings that are contemporary but which find inspiration in traditional architecture



- Contemporary expressions of traditional architectural forms, from porches, roof forms and stoops to window details, brick patterns and geometries are all opportunities with rich possibilities for architectural exploration

5

Build buildings that use punched openings & contrasting metal bays and penthouses



- Punched openings should be the normative condition of all fenestration.
- Bays and top floor penthouses of contrasting color and material are great opportunities for architectural and design contrast.

MATERIALS GUIDELINES - N5

Walls

Building walls will be constructed of the following materials. When constructed of more than one material, changes in material are permitted along a horizontal or vertical line. Through wall mechanical units shall be thoughtfully designed into a buildings, facade camouflaged with paint/materials that are similar to the facade on which it is placed.

Building materials may include brick, stone, stucco, paneling, and/or siding, per below requirements

Brick

- Brick will be coursed in Common Bond, Flemish Bond, Herringbone, Basket Weave, or other decorative bond.
- A variety of brick colors, modules, and finishes will be allowed. Painted brick, in keeping with the traditional treatment of brick in Washington, DC and the mid-Atlantic region, is also allowed.
- Stucco and cementitious paneling are allowed
- Excluding windows, the exterior facade will be brick, stone, stucco, or siding. Courtyards may be entirely siding.

Siding

- Metal and cementitious or fiber board, or its equivalent, is an acceptable siding material where brick and stone are not required. Wood clapboard siding and board and batten running horizontally are permitted as well.
- Cementitious panels are allowed.
- Aluminum and vinyl siding are not permitted.

Stone

- Stone will be laid with a predominantly horizontal pattern, with generally rectilinear stones
- Cast stone will be permitted as sills, headers and accents
- Stone will be used continuously on all sides of the building, if it is used at all, on the building
- Stone walls will terminate with appropriate sills, caps, or intersections with other building elements

Doors

- All exterior doors must be steel, wood, glass or glazed and must be painted or stained. All exterior doors will have glass, panels, or both. Vinyl or other cladding is allowed, though strongly discouraged
- Doors are permitted to be single doors, or French doors, and may include transoms
- Garage doors may be made of embossed hardwood, fiberglass, wood veneer, or steel. Ceiling overhead doors are permitted if recessed.

Windows

- Windows may be single, double or triple hung, casement, or fixed as the need dictates. Transom windows are allowed but not required.
- Windows should be square or rectangular, and vertical in orientation. Circular, half round or elliptical accent windows are also permitted.
- Transom windows may be horizontal in orientation as is traditional.
- Window lights must be vertical in proportion.
- Window frames should be wood, steel or metal clad wood. Vinyl and PVC are allowable.
- Roof skylights are permitted.
- If shutters are used, they must each be one half the width of the window. Working shutters are encouraged. Shutters, if employed, will be wood or metal.

Roofs

- Roof configurations must be simple, and pitched or flat. Gables, hips, and small ancillary shed roofs are permissible. Flat roof are permissible for all

Roofs, Continued

buildings.

- Shed roofs will be pitched in only one direction relative to the body of the building.
- Roof penetrations will be as hidden as possible, and painted matte black, a color to match the roofing material, or left the natural color of the metal.
- Parapet roofs are allowed.

Gutters & Downspouts

- Gutters will made of aluminum or copper.
- Copper gutters should not be painted, and should be allowed to retain their copper color or weathered patina.
- Aluminum must be prebaked or powder coated.
- Downspouts will match the material of the gutter.
- Downspouts will be located in a way that reinforces the façade organization.
- Downspouts will discharge directly into beds - discharge directly onto sidewalks is prohibited.

Chimneys

- Chimney enclosure will be brick or stone, to match the base of the building.
- Spark arresters will be painted black, unadorned, and not ornamental.
- Metal rooftop flues, if used, should extend no higher than the minimum required by the building code. Chimneys may extend past the minimum based on design considerations.
- Chimneys must be integrated with the design of the buildings, with material and color to match.

Roof Decks

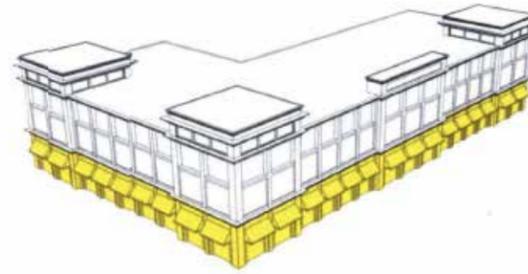
- Roof decks will have some form of temporary or permanent shading, be they trellises, awnings or other shading devices
- Roof deck railings will support the architectural concepts of the building
- Roof gardens, pools, bar-b-que grills and rain gardens are all encouraged

Balconies

- Horizontal band will be faced with materials complementing the building facade.

COMMERCIAL - N5

These guidelines will ensure that the commercial space within Neighborhood 5 will contribute to the overall quality of the development.



ENCOURAGED ELEMENTS

- Architectural projections such as; terraces, projections and bays.
 - Storefronts provided in portions of all building street fronts.
 - Combination of canopies, awnings and flat storefronts to create variety.
 - A strong base that terminates at the building with well-defined second story uses that are separated by a cornice or other horizontal bending elements.
 - Varying window treatments and patterns.
 - Integrated wall and roof elements that screen mechanical equipment.
 - Flat roofing systems with tan riverbed gravel ballast
 - Sloped roofing of shingles, wood shakes simulated slate, or other materials.
 - Building front walls of face brick, stone, pre-cast or wood, with masonry accents.
 - Column surrounds of masonry, pre-cast concrete and/or cast stone.
 - Solid, well defined building piers that define and anchor end bays and building entries.
 - Rear walls constructed with a combination of brick and concrete block. Block can be combination of ground face, and center-scored block.
 - Internally illuminated signs may be permitted within 20' of the public right of way.
 - Icon signs are permitted
- Commercial space that changes in character between the upper stories and ground floor.
 - Anchored storefronts at either end with a strong substantial pier to provide definitions to the space.
 - Storefronts provided in portions of all building frontage.
 - Combination of canopies, awnings, projections and flat storefronts to create variety.
 - Varying window treatments and patterns.
 - Building front walls of face brick, stone, pre-cast or wood, with masonry accents.
 - Column surrounds of masonry, pre-cast concrete and/or cast stone.
 - Solid, well-defined building piers that define and anchor end bays and building entries.
 - Flat roofing systems with tan river bend gravel ballasts.
 - Sloped roofing of shingles, wood shakes simulated slate, or other materials.
 - Rear walls constructed with a combination of brick and concrete block. Block can be combination of ground face, and center-scored block.



PROHIBITED ELEMENTS

- Long facades that have no vertical and/or horizontal articulation.
- Poorly defined base elements or long expanses that offer little relief to passerby.
- Buildings that extend their upper floors to the ground floor level without accommodating commercial needs.
- Signs with screened letters that are mounted flush to the facade.
- Storefronts that match neighboring retailer in color and/or design.



STOREFRONT DESIGN GUIDELINES

STOREFRONT ZONE

A Storefront Zone has been identified as an area available for shop owners to extend their merchandising past the building plane without obstructing the pedestrian pathway. The storefront zone is the six feet (6') of sidewalk closest to the storefront.

THE STOREFRONT ZONE SHALL:

- Be occupied by constructed protrusions, such as bay windows or doors that open to the sidewalk.
- Include semipermanent options such as benches, pots with flowers or shrubs. These "extras" shall reflect the quality and feel of the shop or restaurant.
- Selectively utilize banners and small awnings with samplings of the color palette from the upper floors. This technique is effective in creating visual interest above 18 feet, which often fails to attract pedestrian attention along a "Main Street" condition.

PERMITTED

banners, small awnings, flower boxes, planters, benches, sculpture, bay windows, blade signs, merchandising displays

PROHIBITED

Sidewalk clutter, unmaintained street



ANATOMY OF A STOREFRONT



- | | |
|-------------------|---------------|
| ① STOREFRONT ZONE | ⑤ SIGNAGE |
| ② PEDESTRIAN ZONE | ⑥ WINDOWS |
| ③ AMENITY ZONE | ⑦ DOORS/ENTRY |
| ④ MATERIALS/COLOR | ⑧ AWNINGS |
| | ⑨ LIGHTING |

STOREFRONT DESIGN GUIDELINES



COLOR & MATERIALS

Each restaurant and shop will be provided with the maximum opportunity to uniquely display its merchandise in order to attract passing customers. Flexibility and variety in storefront colors is also an important element of a great retail environment. Colors are essential to creating a unique and exciting streetscape.

The choice of colored materials or paint is very important, when designing a storefront. Colors should be complimentary and reflect the store's unique personality.

PERMITTED

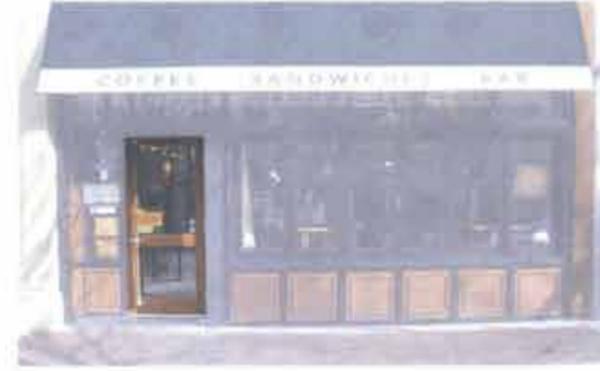
unique color palettes, wood, metal, stone, cast stone, concrete, plaster, opaque, smoked, and reflective glass should be used for accent elements

PROHIBITED

use of too many colors on an individual storefront; conflicting color schemes on adjacent storefronts; use of same color on adjacent storefronts; softwoods, EIFS, pressure treated lumber; small display/showcase windows; blank walls

STOREFRONT COLORS SHOULD BE CHOSEN, BASED ON THE FOLLOWING CRITERIA:

- Colors shall be used to tie all parts of the storefront's architecture together.
- Generally, muted colors are more appropriate for large areas and backgrounds while bright colors should be considered for accents.
- The color scheme of the storefront should take into consideration the color of the upper levels of building as well as with adjacent storefronts.
- The tenant coordinator will be responsible for approving all paint palettes.



DOORS AND FRAMES

The entry to a shop or restaurant is the most important part of any storefront, as it sets the tone for a patron's experience upon entering the establishment. The door or entryway connects the store to the sidewalk and is responsible for preparing customers for what lies inside. A door's shape, size, style and weight should be considered.

STOREFRONT DOORS AND FRAMES SHOULD BE CHOSEN, BASED ON THE FOLLOWING CRITERIA:

- Restaurants shall use their doors to connect with outdoor seating areas.
- Recessed doors are encouraged, as they provide shelter for passing pedestrians.
- Doors with a high percentage of glass are encouraged in order to increase visibility into the store's interior.
- All doors must conform to ADA regulations.
- Doors should be compatible with and complementary to the storefront's design.
- The primary entrance should be clearly marked, while side entrances should be as close to the primary street as possible.

PERMITTED

large windows, clear glass, maximum visibility, recessed doorways

PROHIBITED

adhesive window film, tinted glass, plexiglass, overly decorative doors



STOREFRONT DESIGN GUIDELINES



WINDOWS

Windows provide an opportunity for shop owners and restaurateurs to merchandise to passing pedestrians and motorists. They shall be used to display products and services, as well as to enliven the sidewalk with light, character and color.

STOREFRONT WINDOWS SHOULD BE CHOSEN, BASED ON THE FOLLOWING CRITERIA:

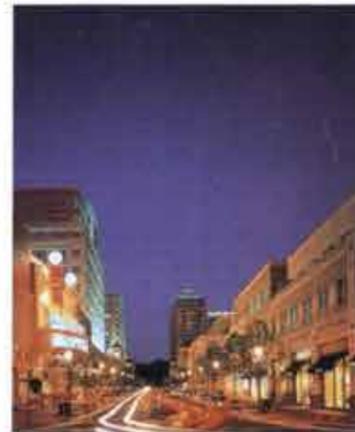
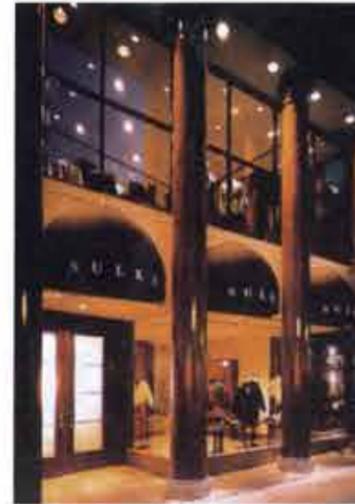
- Storefront glazing should be at least 60%. The more glass a storefront has, the more effectively merchandise can be displayed.
- Windows must not be any closer than twelve (12) inches to from ground.
- Windows should be designed for energy conservation.
- Light quality, Low- e- rated glass is recommended to minimize discoloring of merchandise.
- Large display windows establish a visual connection to the interior. They shall be flush with the window frame or slightly recessed (6 to 12 inches).
- Certain shops, such as jewelry stores or establishments with heightened security concerns, will be permitted to incorporate smaller display windows at the discretion of the tenant coordinator.

PERMITTED

large glass panes with mullions

PROHIBITED

low visibility into storefront



LIGHTING

Lighting helps define the storefront's character, contributes to the safety of the streetscape, animates the streets of Crown Farm, prolongs street life after business hours, and increases pedestrian safety.

STOREFRONT LIGHTING SHOULD BE CHOSEN, BASED ON THE FOLLOWING CRITERIA:

- Storefront facades, recessed doorways, outdoor spaces, parking areas, and passageways must be lit at all times.
- Sign lighting, including flat mounted signs, blade and banner signs, must be lit with concealed lighting, or from above with lights pointing down.
- Internal window light fixtures should be located and angled to ensure that they spotlight the tenant's merchandise, minimizing distracting reflections on the storefront windows.
- Halo-illuminated or face illuminated pan channel letters, are permitted as part of the store's identification sign.

PERMITTED

concealed lighting, down lighting, internal window lighting past hours of operation, mounted pedestrian lighting, lighting that becomes signage

PROHIBITED

storefront windows that are dark before 8 pm

STOREFRONT DESIGN GUIDELINES



AWNINGS

An awning emphasizes the shop or restaurant's entrance, provides shade and may carry part of the tenant's image. They add texture to streetscape, enhance interest and introduce variety to the building facade, while protecting storefront displays from sun exposure.



PERMITTED

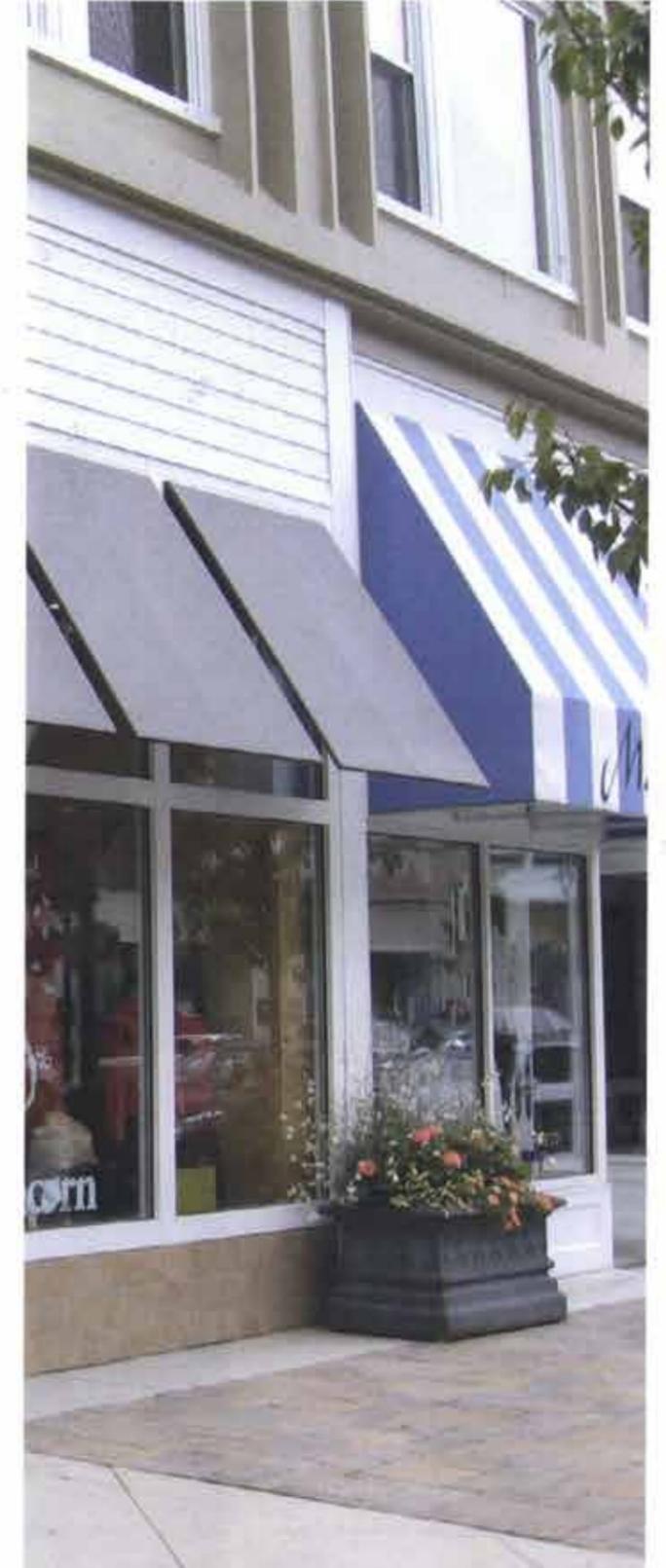
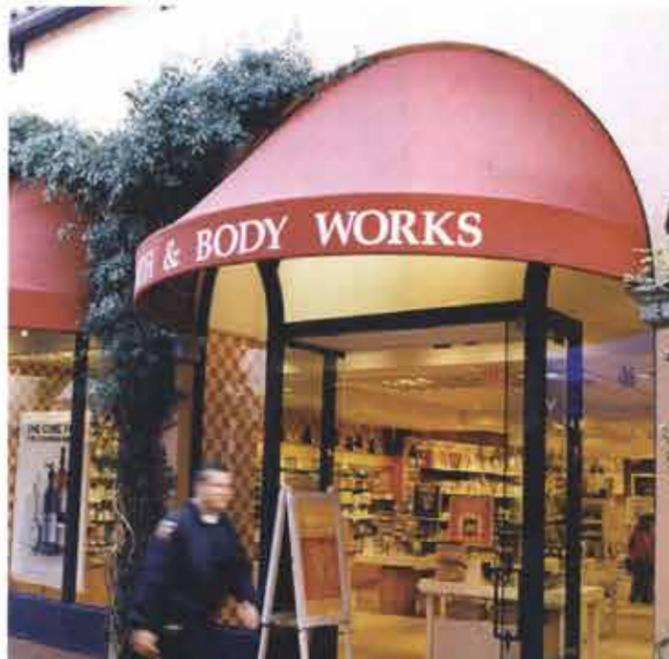
canvas, retractable awnings, wood, and metal materials in a variety of sizes and shapes among stores.

PROHIBITED

vinyl, same awning across several storefronts.

AWNINGS SHOULD BE CHOSEN, BASED ON THE FOLLOWING CRITERIA:

- Materials must be durable, fire and fade resistant.
- Retractable awnings work best with traditional storefronts, while fixed awnings are more appropriate for more modern storefronts.
- Because of the desire for visual variety on the street, the use of the same awning across several storefronts is strongly discouraged.
- Awnings should project two to five (2-5') feet from the building facade.
- So that they will not interfere with pedestrians, awnings should be mounted above display windows and below cornice or second story window sills.
- Awnings must be at least eight (8') feet above the sidewalk, at the lowest point of the awning.
- The structural supports of the awning should be finished to match or complement the awning fabric.

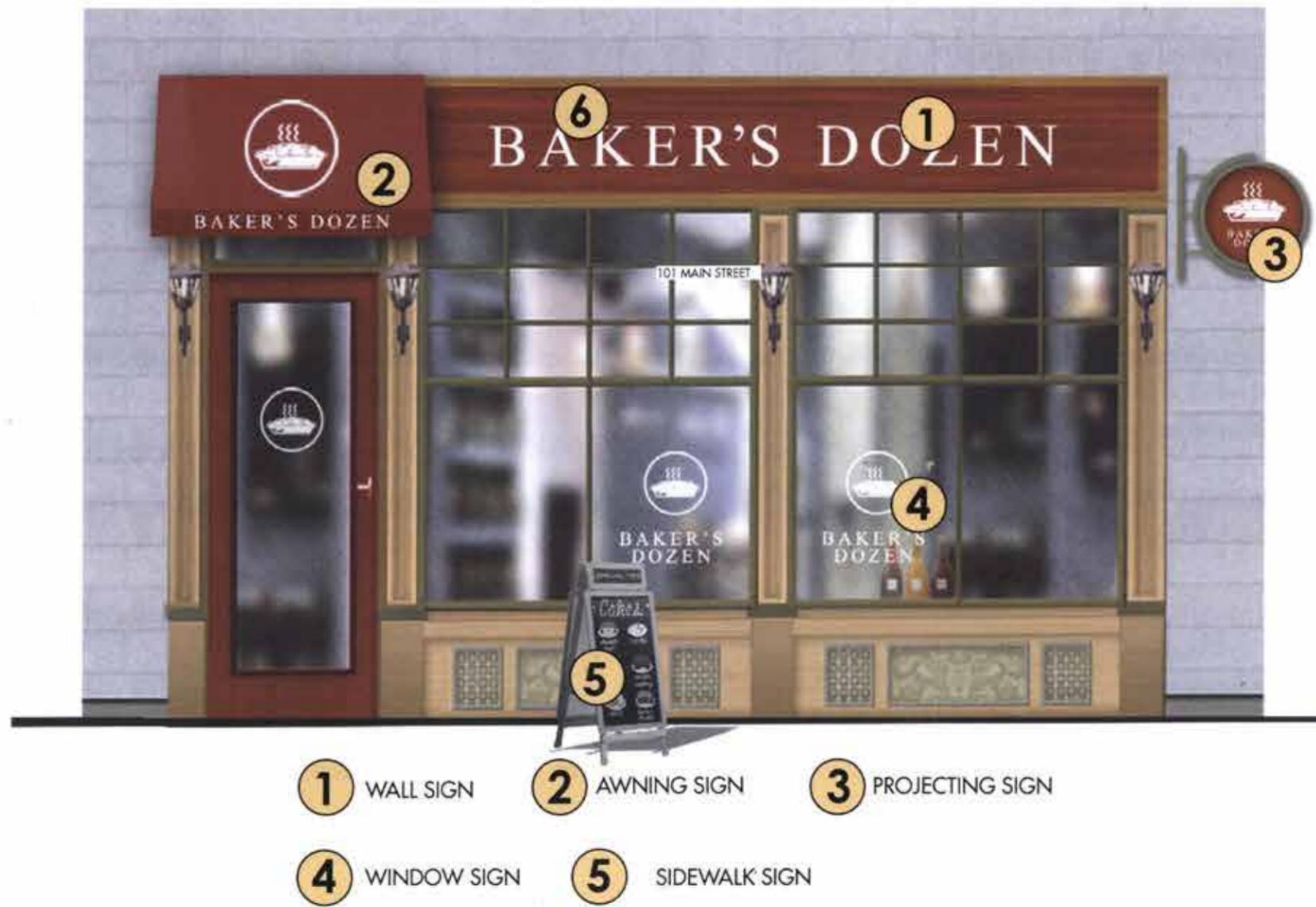


STOREFRONT SIGNAGE GUIDELINES

Storefront signage should reflect the retailers style and creativity while utilizing high quality materials and complimenting the overall storefront design. Each component of storefront signage contributes to the overall look and character of the storefront which contributes to the overall feel of the streetscape.

STOREFRONT SIGNAGE MAY CONSIST OF THE FOLLOWING COMPONENTS:

- Identity Sign
- Canopy/Marquee Signs
- Wall Mounted Signs
- Awning Signs
- Projecting Signs
- Window Signs
- Plaque Signs
- Menu Boards
- Banner Signs



STOREFRONT SIGNAGE DESIGN GUIDELINES

Storefront signage is the single most important element of any retailer's storefront design. A successful storefront signage program is one that layers various elements on top of one another to create visual interest and a recognizable brand character.

In order to prevent retailers from over-signing their storefronts, which would have a negative impact on any storefront design, the sum of all sign area erected on any storefront face may not exceed the maximum allowable signage area. Storefront signage will only be permitted on facades that have street frontage.

Retailers with more than one street frontage are granted more signage.

CALCULATING THE MAXIMUM ALLOWABLE SIGNAGE AREA OF A STOREFRONT

All storefronts within Crown Farm may contain anywhere from one to seven pieces of signage. Once the maximum allowable signage area is calculated, it may be distributed among the following sign types:

- Canopy Sign
- Projecting Sign
- Sidewalk Sign
- Banner Signs
- Awning Sign
- Window Sign
- Wall Mounted sign

Inline Retailers:

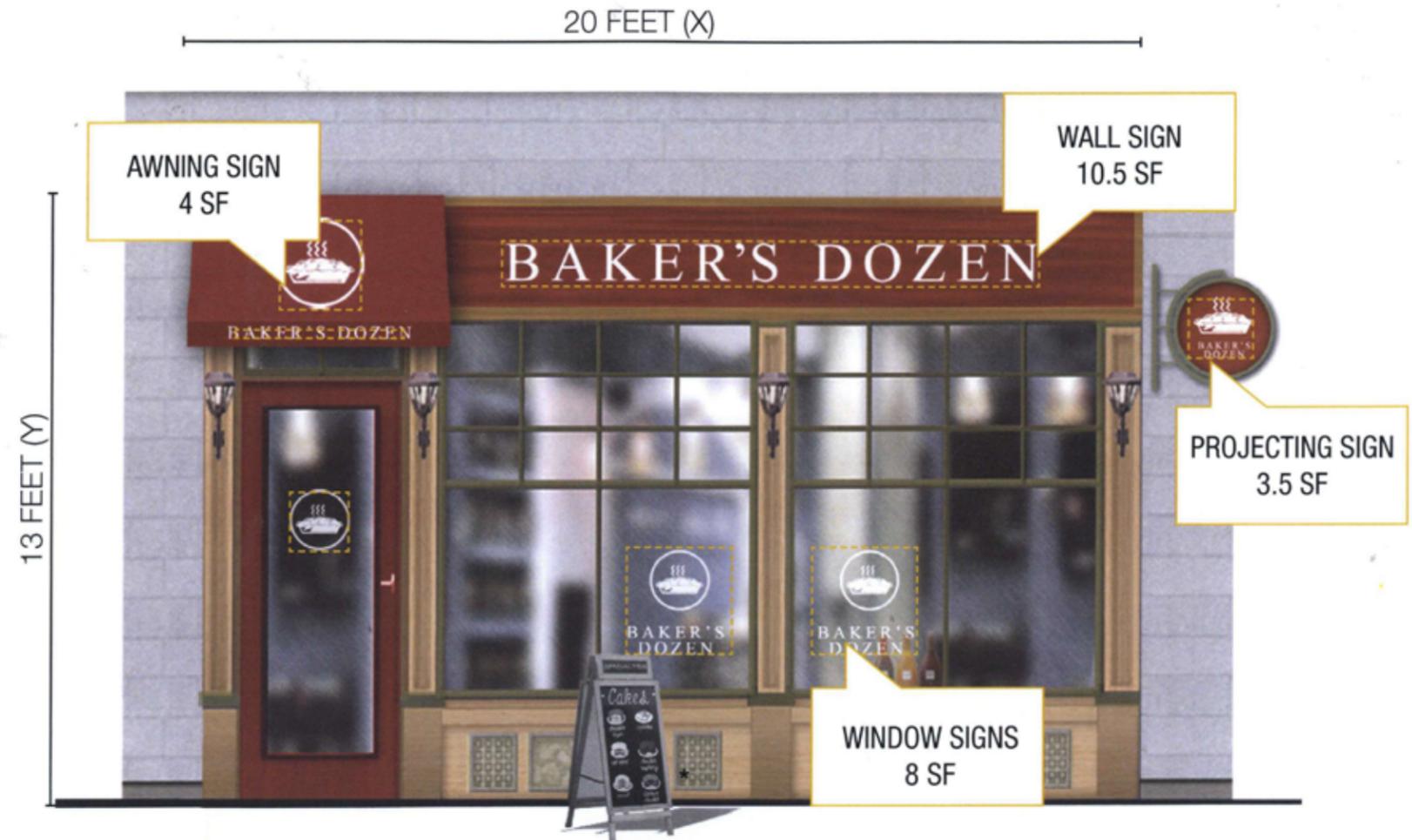
To calculate the Maximum Allowable Signage for a storefront:

1. Calculate the storefront area (Z). Storefront width(X) x Storefront height(Y)=Z
2. Multiply the storefront area by 10 percent. Z x .10 = Maximum Allowable Signage
3. No maximum allowable signage shall exceed 200 Square Feet.
4. No maximum allowable signage may be less than 25 Square Feet.

Retailers with more than one frontage (PAD TENANTS INCLUDING GROCERY):

Retailers with more than one street frontage are granted more signage. To calculate a gross Maximum Allowable Signage for this type of tenant:

1. Calculate the storefront area (Z) for each frontage. Storefront width(X) x Storefront height(Y)=Z
2. Multiply each storefront area by 10 percent (.10). Z x .10 = Maximum Allowable Signage
3. Add the Maximum Allowable Signage area for each frontage together.
4. The gross Maximum Allowable Signage area may be distributed in any combination of signs among the storefront facades with street frontage.



$$1. \text{ WIDTH}(X) \times \text{ HEIGHT}(Y) = \text{ STOREFRONT AREA } (Z) \quad 20\text{FT} \times 13\text{FT} = 260 \text{ SQ FT}$$

$$2. \text{ MAXIMUM ALLOWABLE SIGNAGE} = 260 \text{ SQ FT} \times .10 = 26 \text{ SQ FT}$$

$$\begin{array}{rcccccc} \text{AWNING SIGN} & & \text{WINDOW SIGN} & & \text{WALL SIGN} & & \text{PROJECTING SIGN} & & \text{PROJECTING SIGN} \\ 4 \text{ SF} & + & 8 & + & 10.5 \text{ SF} & + & 3.5 \text{ SF} & = & 26 \text{ SF APPLIED SIGNAGE} \end{array}$$

The Maximum Allowable Signage for the storefront may be distributed to various types of signage. The sum of each storefront's signage elements, (window signage, projecting signage, identity signage, etc.) may NOT exceed 200 square feet for inline retailers. Retailers are not required to max out their signage allowance.

Please note that sidewalk signs should not be included in this computation.

STOREFRONT SIGNAGE DESIGN GUIDELINES



WALL MOUNTED SIGNS

Wall mounted signs are a predominant signage feature of retail/restaurant tenants. This sign should be easily read, or appropriate size, and include the store's logo and appropriate typeface. This sign should be made of high quality materials that can withstand all weather conditions. Appropriate measures should be taken to ensure that all signage is clean and clearly visible at all times.

Wall-Mounted Signs and must adhere to the following technical regulations:

- Shall be securely fixed to the building or structure.
- May not project more than twelve inches (12") from the building or structure.
- Must be placed so that it does not obscure windows, doors or decorative building elements.
- Lettering shall be a minimum of ten inches (10") high, but no taller than forty inches (40"), to ensure readability.
- Individually illuminated (LED or Neon) channel letters with an acrylic face are permitted.
- Internally illuminated box signs are not permitted.
- Internally illuminated signs are permitted within 20' of street edge.
- May not exceed the maximum allowable signage area (see page 86.)
- Icon signs are permitted.



STOREFRONT SIGNAGE DESIGN GUIDELINES

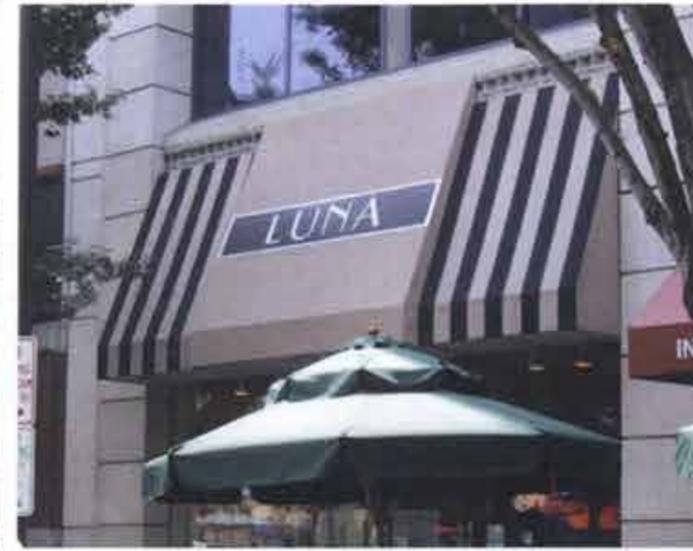


CANOPY/MARQUEE SIGNS

If canopy/marquee signs are used, they should be made of the highest quality materials and be designed to withstand all weather conditions. These signs must be permanently affixed to the building and be architecturally designed and fastened.

CANOPY/MARQUEE SIGNS MUST ADHERE TO THE FOLLOWING TECHNICAL REGULATIONS:

- The text area on a canopy or marquee sign shall not exceed an area equal to 25% of the face area of the canopy/marquee itself.
- Example: If the canopy/marquee is 10 linear feet wide, then the actual letters that make up the text of the signage may not exceed 2.5 square feet.
- Graphic striping, patterns or color bands on the face of a building, canopy, marquee or architectural projection shall not be included in the computation of sign copy area.
- Lettering shall be a minimum of ten inches (10") high, but no taller than thirty inches (30"), to ensure readability.
- May not exceed the maximum allowable signage area.
- Marquee signs may project into public R.O.W.



AWNING SIGNS

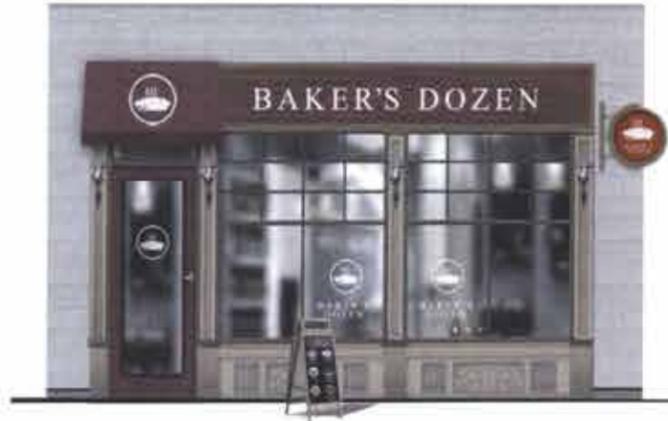
An awning emphasizes the shop or restaurant's entrance, provides shade and may include part of the tenant's image. They add texture to streetscape, interest and variety to the building facade, while protecting storefront displays from sun exposure.

AWNING SIGNS SHOULD ADHERE TO THE FOLLOWING TECHNICAL REGULATIONS:

- The copy area of awning signs shall not exceed an area equal to 40% of the background area of the awning.
- Signage can be placed anywhere on the awning, including the valence area.
- Neither the background color of an awning, graphic treatment or embellishment, such as striping, patterns or valences, shall be included in the computation of sign area.
- Lettering shall be a minimum of ten inches (10") high, but no taller than thirty inches (30"), to ensure readability.
- May not exceed the maximum allowable signage area.



STOREFRONT SIGNAGE DESIGN GUIDELINES

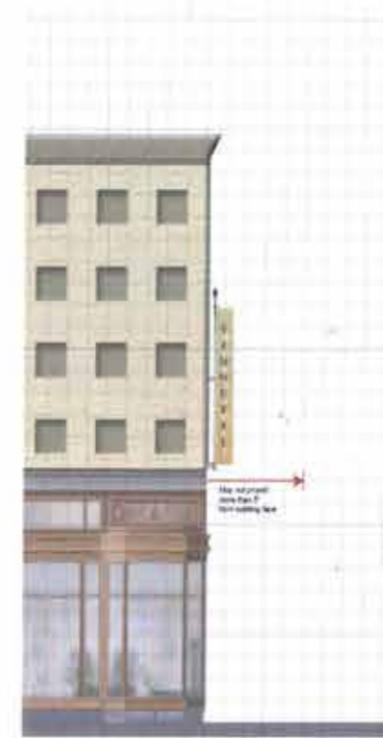
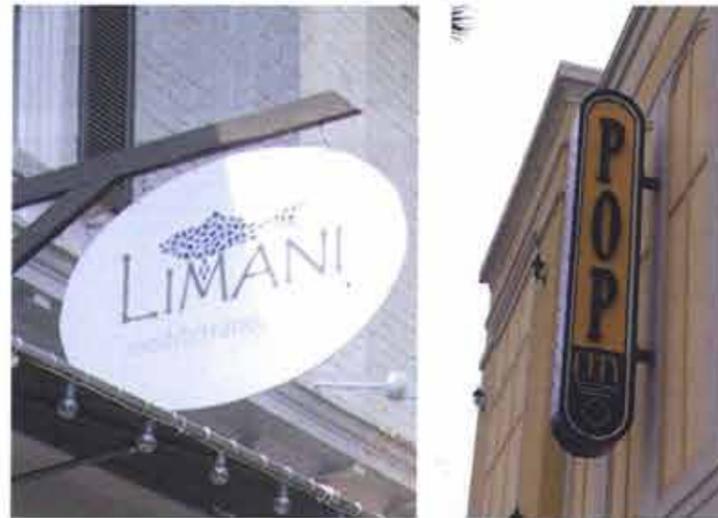
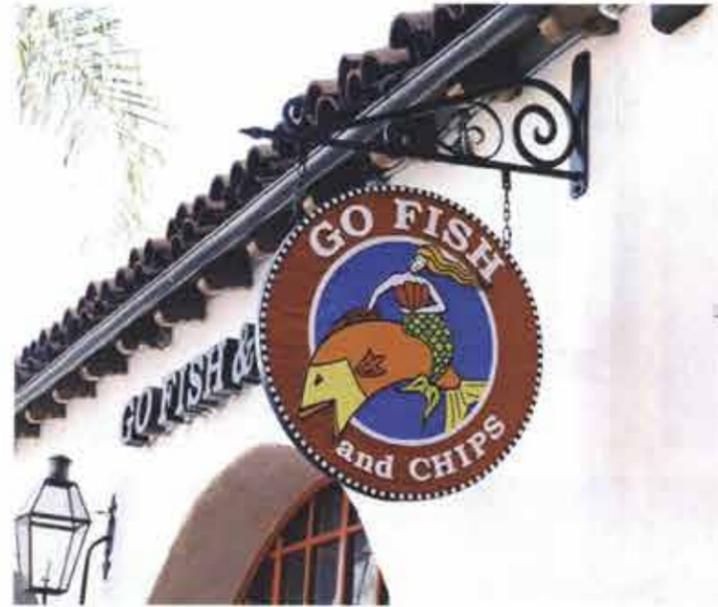


PROJECTING SIGNS

Storefront signage takes on many forms. A popular signage option is the use of projecting signage. This signage is permanently affixed to the storefront and can easily be seen by pedestrians on the sidewalk and by passing cars.

PROJECTING SIGNS SHOULD ADHERE TO THE FOLLOWING TECHNICAL REGULATIONS:

- Signs may not extend vertically above the sign height line of the facade upon which it is mounted.
- Projecting signs may not project more than forty-two (42") from the building.
- Signs shall maintain a minimum vertical distance of eight (8') feet above any sidewalk.
- Lettering shall be a minimum of four inches (4") high, but no taller than thirty inches (30"), to ensure readability.
- May not exceed the maximum allowable signage area.
- Projecting signs are permitted beneath awnings.



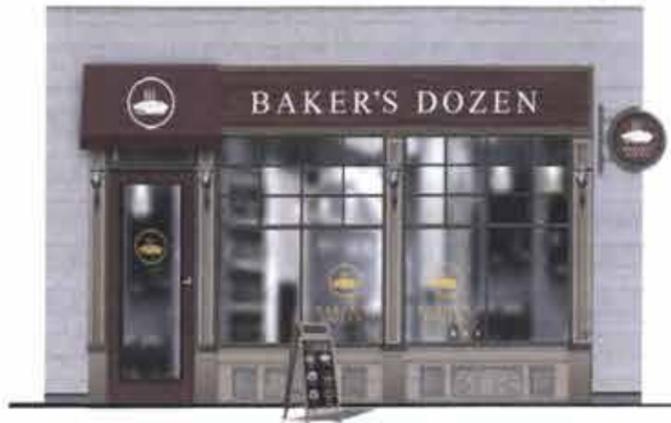
BANNER SIGNS
Banner signage is an effective way to unify the look and character of all floors of a building. These signs can be seen from great distances and provides a target for visitor's navigating through the development.

BANNER SIGNS SHOULD ADHERE TO THE FOLLOWING TECHNICAL REGULATIONS:

- Only selected retailers may utilize banner signs.
- All banner signs must be approved by Ownership.
- Banner Signs may not project more than three feet (3') from the building facade.
- Multiple banners may be hung from any one storefront.
- Banners shall be safely secured to a wall or roof by metal couplings or fittings.
- Banner Signs may not cover windows or doors.
- Banner Signs may only be used on upper floors of buildings. No banner signs will be permitted on the ground floor.
- Lettering shall be a minimum of ten inches (10") high, but no taller than thirty inches (30"), to ensure readability.
- Banner material MUST be made of durable exterior materials, excluding vinyl. Suggested materials are mesh and metal (engineered to withstand windy conditions.)
- Banner signs may be displayed permanently as long as they are maintained regularly to ensure colors have not faded and that installation is secure.



STOREFRONT SIGNAGE DESIGN GUIDELINES

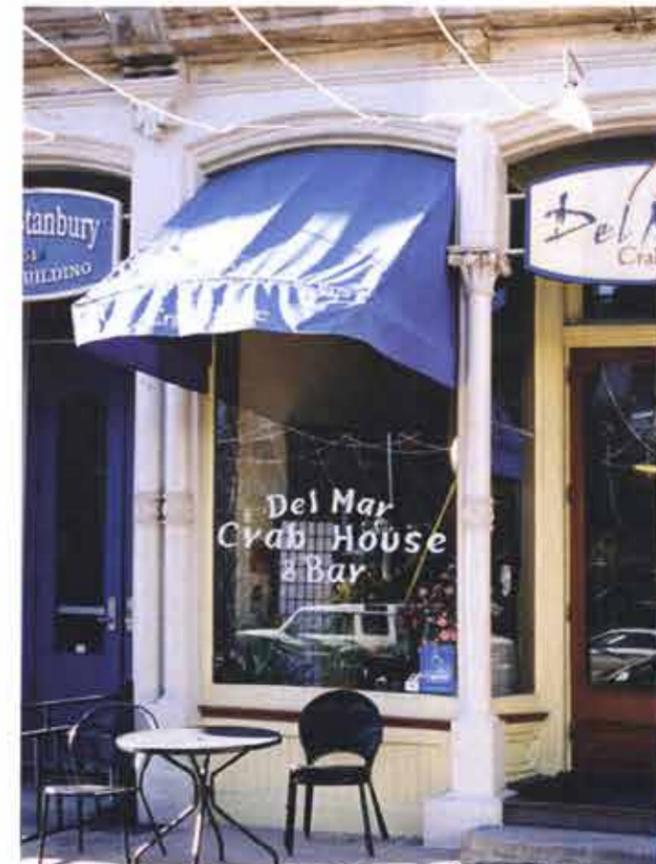


WINDOW SIGNAGE

Window signage enhances the storefront by reiterating the style and overall character of the store. Window signage is a great opportunity for the shop owner to reinforce their brand identity.

WINDOW SIGNS SHOULD ADHERE TO THE FOLLOWING TECHNICAL REGULATIONS:

- Painted window signs must be maintained at all times.
- Glass etching is the preferred method for window signage.
- May not cover more than fifteen percent (15%) of a storefront's window area.



FREESTANDING SIDEWALK SIGNS

Sidewalk signs are an ideal way to notify pedestrians of store promotions and daily specials. Although they are temporary and may only be displayed in the storefront zone, sidewalk signs are a popular marketing choice among store owners.

SIDEWALK SIGNS SHOULD ADHERE TO THE FOLLOWING TECHNICAL REGULATIONS:

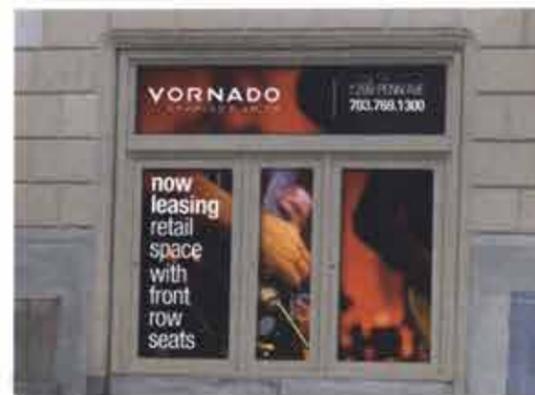
- One sidewalk sign per business can be displayed in the Storefront Zone.
- Sidewalk signs shall be made of durable materials such as wood, aluminum, metals, fiber glass, tile, MDO, or other similar materials.
- Sidewalk signs shall not be illuminated.
- Sidewalk signs shall be no larger than six square feet.
- All sidewalk signs shall be taken in at the close of business.



LEASING SIGNAGE

Vacant, dark, bare storefronts during initial lease up and throughout the life of the Crown Farm development are prohibited. Dark spaces convey the wrong message to consumers, residents, and the community at large, creating the notion that the streetscape character is cold and unwelcoming, driving potential consumers away. During initial lease up and intermittent tenant turnover, all unleased spaces shall utilize full-length graphics as a place holder for what may be to come. These full-length graphics should be used creatively to echo a development wide marketing campaign or to illustrate a faux storefront. These graphics are important to create continuity along the façade during this transitional time.

- Graphics should not repeat along three consecutive storefront windows/spaces.
- Any graphics placed on the exterior of retail spaces shall be made of outdoor vinyl and adhered to a durable substrate (provided retail windows or plywood.)
- Graphics should completely cover the void space behind the façade and eliminate views within.
- Consideration must be taken to still allow access to the retail space.
- Although varied, all vacant storefront designs should be of similar voice and sentiment.



LANDSCAPE AND HARDSCAPE

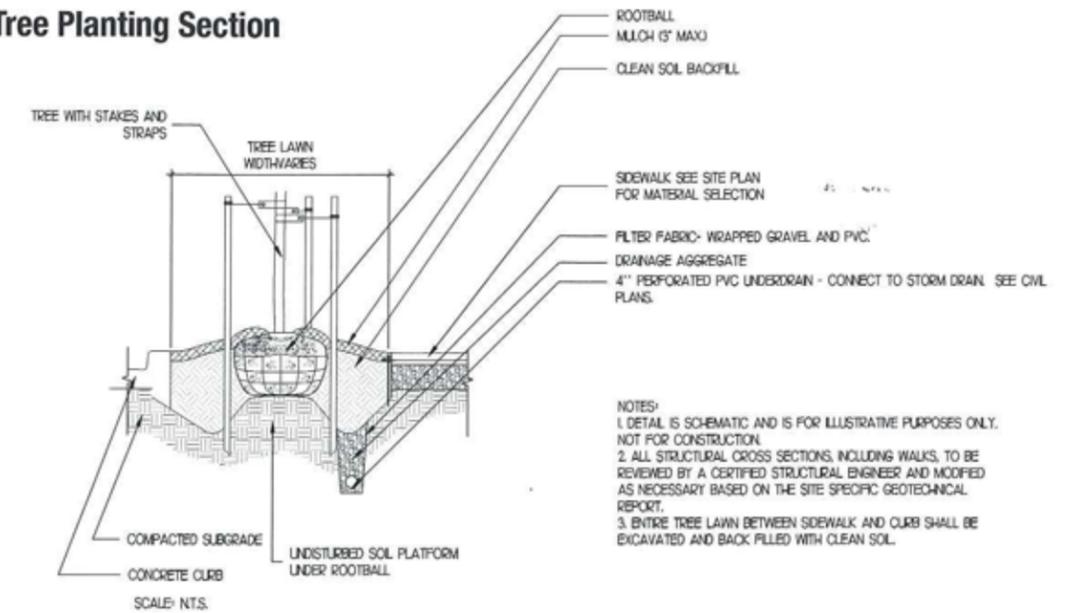
3

GENERAL LANDSCAPE GUIDELINES

Landscape material selections will respond to the surrounding architecture and will reinforce and define the public open space within the site. In general, street tree species will correspond to the specific street type on which they are located. This will help define the overall hierarchy of street connections and create clear pedestrian and vehicular zones. Overall landscape selections, other than street trees, will be based on year-round interest, the ecology of the site, the need to define spaces, hierarchy of plant material, and the theme of the design. To the extent possible, regional and indigenous species are to be integrated into the planting designs. Deciduous material will have an evergreen background, and all seasonal color will be planted to the front of plant beds. There will be a diverse mix of plant species to avoid monoculture and ensure seasonal interest. All plant beds and tree wells will be fully prepared per the specifications as submitted on final site plans.

1. Landscaping is required for all development with Crown and may include deciduous, evergreen, or ornamental trees, shrubs, ground covers, perennials, and seasonal color (annuals). Landscape plantings must comply with the approved planting plans that are part of the City of Gaithersburg final site plan, as well as these guidelines. Invasive plant material will not be used.
2. Street trees will be provided according to the approved City of Gaithersburg Site plans; all street trees will be deciduous.
3. Plantings will be installed at or exceeding the following minimum sizes to ensure good initial appearance:
 4. Plants will be selected based upon their ultimate height, width, and growth habit in relation to the space where they will be planted. When planted adjacent to buildings, plantings should not obscure the building's architectural features.
 5. Plantings (other than street trees) will include evergreen plants to ensure year round framework for planting areas and visual interest.
 6. Landscape selections are shown as examples and do not constitute final street tree selections. Additional species may be added at time of final design and are subject to review and approval by owner and City of Gaithersburg.
 7. Final architecture, utility locations and alley configuration will dictate landscape design and plant selections.
 8. To the extent possible, landscape material will conform to the City of Gaithersburg Tree Manual and "Native Plants for Central Maryland Landscapes" by the Maryland Cooperative Extension.
 9. Three foot clearance from any walk

Tree Planting Section



GENERAL LANDSCAPE GUIDELINES

Sidewalk Planting Strips

Landscaping includes sidewalk planting strips and plantings in tree basins. These are most appropriate where frequent pedestrian traffic between parked cars is not expected, or where a pedestrian path cannot be provided for people moving between the sidewalk and the parked cars. This sort of landscaping is a simple but effective addition to the streetscape, and offers a real ecological value to the community.

Landscaping:

- Reduces impervious surface and associated surface runoff
- Naturally treats storm water and improves water quality
- Provides infiltration and groundwater recharge
- Improves and provides habitat
- Adds aesthetic value and promotes community stewardship
- Provides a buffer between the sidewalks and the street, increasing pedestrian comfort
- Landscaped planting beds offer opportunities to provide visual interest and greenery that changes throughout the year

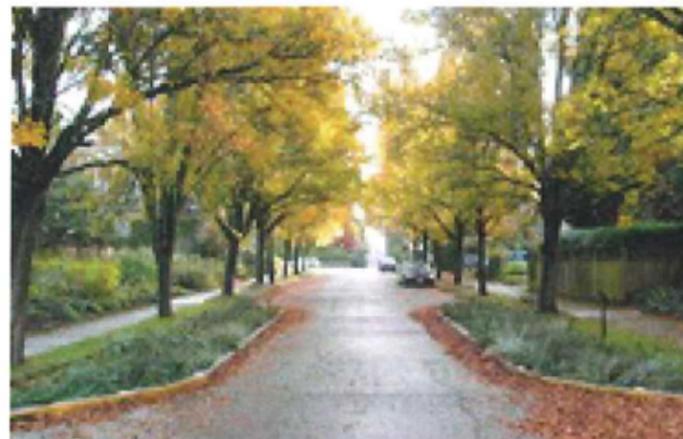
Ivy and other invasive species of ground cover are prohibited. Tall, dense hedges should be avoided because they tend to limit visual access and accessibility.

Understory landscaping will include drought tolerant species. Deep rooted native drought tolerant species have many benefits, including tolerance to local variances in precipitation, the reduced need for irrigation, increasing the permeability of the soil, and the ability to filter pollutants.

Planting strips can be designed to detain, cleanse and slowly infiltrate the storm water. During significant storm events, overflow can be directed from one planter to the next.

Green Streets

As briefly described above, where planting strips alongside streets and sidewalks are used to deal with stormwater, they will be known in the documents as Green Streets. Through the use of Bio-Swales or similar technology, these green streets will not only be practical, but they can be seen as an opportunity to beautify the public realm. Plant species (grasses, shrubs and trees) that are native and tolerant of these sorts of conditions should be used.



OPEN SPACE DIAGRAM



Pond

Crown has many important characteristics related to its unique location, and proximity to major amenities and natural environment. A pond located in southern part of the development is one of these unique places. Planning and design strategies should allow residents and visitors to engage the water's edge and offer an opportunity to interact with nature.

Pocket Parks

Pocket parks and smaller open spaces throughout the site, including linear parks and courts, will be designed primarily for small scale gatherings, passive recreation, and in some cases, linkages between and to larger open spaces.

Pocket parks will include small areas of repose, benches, walking paths and small gardens.

Neighborhood Parks

Neighborhood parks within Crown will serve as both community gathering spaces and focal areas for the various individual neighborhoods that make up the site. Parks will be designed to provide a variety of passive and active recreation opportunities for all age groups, as well as to reinforce the identity of their specific neighborhood.

Playground facilities, benches, and gardens will be found within the neighborhood parks. Some hardscape areas of formal design will be mixed in with less formal large areas of green.

Green Streets

Green streets are incorporated along Crown Park Ave to enhance overall water quality while also adding aesthetic value to Crown's main pedestrian thoroughfare.

TREE PALETTE AND DESIGN GUIDELINES

On roads maintained by Public Works, the City of Gaithersburg may require a specific tree and shrub species. Tree and plant species may include but not be limited to the species shown below:

Potential Street Tree Species

- Red Maple*
- Sugar Maple*
- Willow Oak*
- Linden*
- Valley Forge Elm*
- Hornbeam*
- Black Gum*
- Sweet Gum (seedless)*
- Red Oak*
- Pin Oak*



Red Maple



Sugar Maple



Willow Oak



Linden



Sweet Gum



Pin Oak

Potential Evergreen Tree Species

- Nellie Stevens Holly*
- Eastern Red Cedar*
- American Holly*
- Southern Magnolia*



Nellie Stevens Holly



Eastern Red Cedar



American Holly



Southern Magnolia

Ornamental Trees

The use of ornamentals on the grounds is highly encouraged. Any of the various species from the previously approved palette are acceptable.



Potential Ornamental Tree Species

- Redbud*
- Sweetbay Magnolia*
- Crape Myrtle*



Redbud



Sweetbay Magnolia



Crape Myrtle

Ornamental Shrubs and Grasses

Liberal use of the palette of shrubs and ornamental grasses is encouraged on the grounds



Street and Shade Trees

The street trees along the streets are encouraged to be used to create a pleasant green neighborhoods and provide necessary shadow.



TREE PALETTE AND DESIGN GUIDELINES

Potential Shrubs
Summersweet
Spirea
Dwarf Fothergilla
Azalea
Viburnum
Dwarf Cherry Laurel



Summersweet



Spirea



Dwarf Fothergilla



Red twig Dogwood



Viburnum

Potential Ornamental Grasses
Karl Foerster Feather Reed Grass
Dwarf Fountain Grass
Tufted Hair Grass



Feather Reed Grass



Tufted Hair Grass

STREET TREES

STREET TREES

Street trees are one of the most important streetscape elements. Their height, canopy width, shade, and color set the tone for the streetscape, act as a traffic calming device to help protect pedestrians, and shield other streetscape elements from the sun. Tree species will be selected by street, based on the street's width, primary use, and available planting well size. Appropriate tree species selection and location will ensure the healthy growth and longevity of trees and maximize the neighborhood's overall value.

LOCATION AND SPACING

Street tree location will be dictated by the species and have a minimum of 30' spacing. Tree spacing should create a continuous canopy and buffering effect between the roadway and the sidewalk.

VERTICAL CLEARANCE

Choosing a tree species that has an appropriate canopy height is of the utmost importance. A vertical clearance of 80 inches is required above sidewalks and 14' above roadways.

TREE WELLS

Three types of tree well conditions will be utilized throughout Crown Farm.

Condition 1/Low Intensity: Open tree well with under plantings.

Condition 2/Low Intensity: Open tree with mulch.

Condition 3/High Intensity: Surrounded by paving on all four sides.

Residential streets will be considered to have a lower-intensity of traffic while public and commercial streets will be considered to have a higher-intensity of traffic.

Tree wells containing underplantings shall consist of evergreen shrubs and/or seasonal color. Proper drainage shall be provided, and optional utility connections (such as outlets for tree lights and decorations) shall be approved by the City of Gaithersburg. All tree planting wells shall be fully excavated and backfilled with clean, debris free soil in order to ensure maximum viability of street trees.

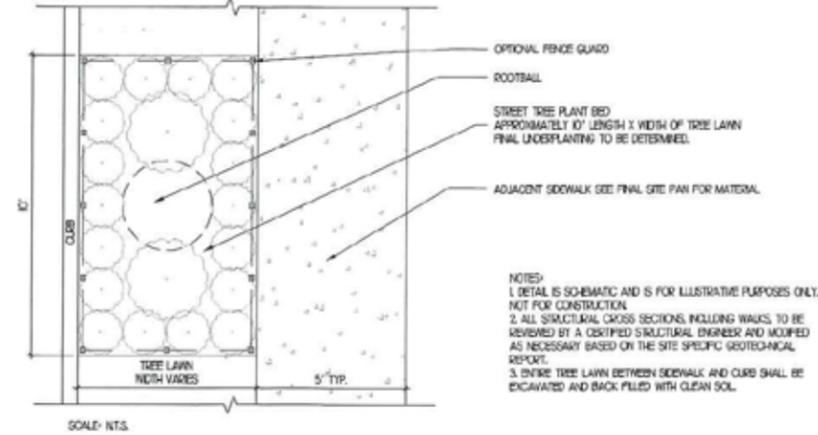
In addition, a biobarrier shall be used when planting trees within five feet of storm drain pipes.

MAINTENANCE

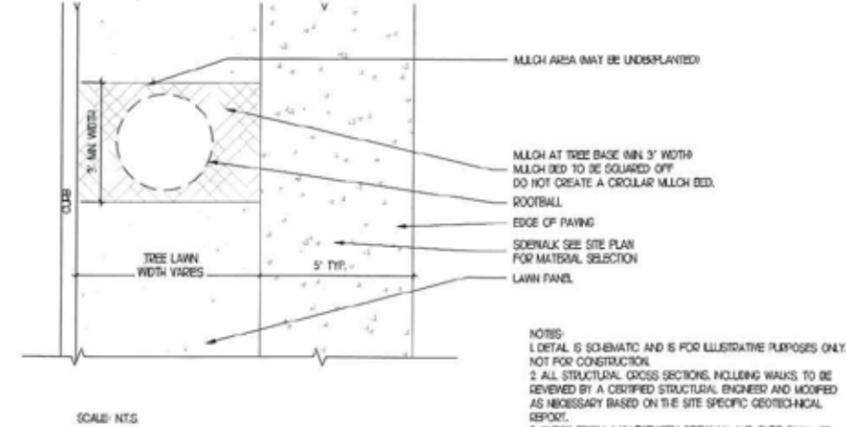
- Pruning should be conducted under the supervision of a certified arborist.
- On the pedestrian side of the sidewalk or median, the lowest branch that extends over the path of travel should provide an 80" minimum vertical clearance.
- On the vehicular traffic side of the sidewalk or median, the lowest branch should provide a 14 foot minimum clearance where branches extend beyond the curb or driveway.
- Tree foliage should be maintained to provide a minimum 6 foot clearance from any public streetlight.
- Trees should be pruned for 1 to 2 feet clearance to building façade and building signage.
- Proper pruning and regular maintenance of trees will allow for trees to develop healthily, retain their natural form, and ensure they do not pose a safety hazard to the public.

NOTE: SEE TREE PLANTING DETAILS INCLUDED IN THE SDP BY THE CITY OF GAITHERSBURG (MARYLAND STATE FOREST CONSERVATION TECHNICAL MANUAL)

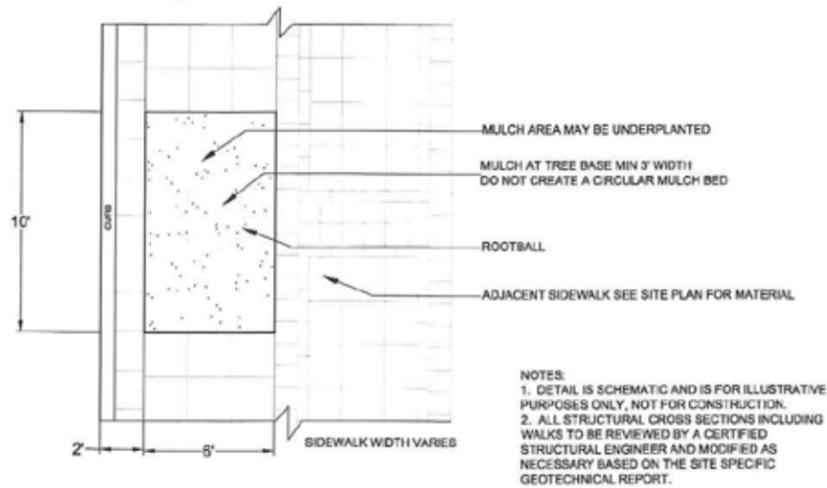
Tree Well Plan- Underplantings (Condition 1) For Medium-Intensity Residential Streets



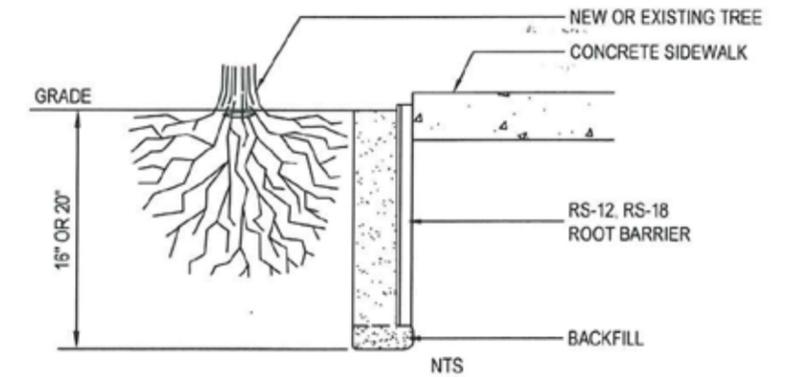
Tree Well Plan- Mulch (Condition 2) For Low-Intensity Residential Streets



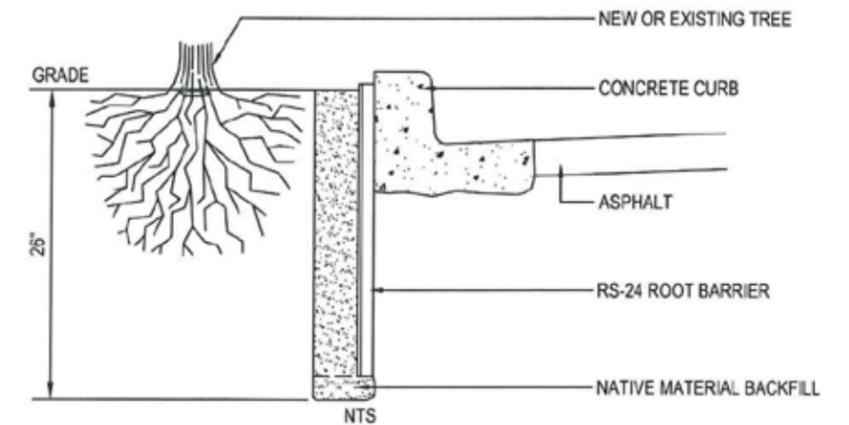
Tree Well Plan (Condition 3) For High-Intensity Commercial Streets



Tree Well Section- Biobarrier (Option 1) For Tree Plantings Within Five Feet of Storm Drain Pipes



Tree Well Section- Biobarrier (Option 2) For Tree Plantings Within Five Feet of Storm Drain Pipes



- NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 2. DO NOT SCALE DRAWINGS.
 3. THE RAISED ROOT GUIDING RIBS MUST BE FACING TOWARDS THE TREE ROOTS.
 4. THE TOP OF THE BARRIER PANELS MUST BE SLIGHTLY ABOVE GRADE (NEVER BELOW GRADE).
 5. POSITION BARRIER PANELS VERTICALLY WITH TOP AGAINST THE STRUCTURE TO BE PROTECTED.
 6. SEE LANDSCAPE SITE PLAN TO DETERMINE TREES THAT REQUIRE BARRIER PANEL.

BIORETENTION

BIORETENTION

Bioretention facilities combine storm water runoff control and treatment with aesthetic landscaping and architectural detail. These landscaped areas are used to collect filter, and infiltrate runoff from roofs, streets and sidewalks and are designed to incorporate many of the pollutant removal and infiltration functions that operate in natural ecosystems.

This is achieved by filtering pollutants through soil particles and vegetation as the water percolates through the system. In addition to providing pollution reduction, bioretention facilities can be used to manage runoff flow rates and volumes, thus reducing the downstream potential for combined sewer overflows.

Swales are long narrow landscaped depressions primarily used to collect and convey stormwater and improve water quality. They remove sediment and reduce nutrient concentration within runoff through natural treatment prior to discharge into another stormwater management facility or the sewer network. In addition to providing pollution reduction, swales also reduce runoff volumes and peak flow rates by detaining stormwater. Swales add significant landscaping to street corridors and reduce impervious surface. In some circumstances, rainwater infiltrates into the ground while being conveyed along the length of the swale.

Several forms of swales exist and are highly customizable. Natural swales are depressed linear features that combine appropriate plantings with amended soils. Bioinfiltration swales typically subsurface infiltration trench below amended soil.

PLACEMENT

Swales are suitable for many street types with long, unconstrained areas, such as within medians or the outside edge of a street. Swales can be located in the furnishing zone of streets with unbroken curb edges, such as streets without parking lanes or many driveways. Frequent driveway curb cuts and subsurface utilities may minimize the appropriateness of installing a swale.

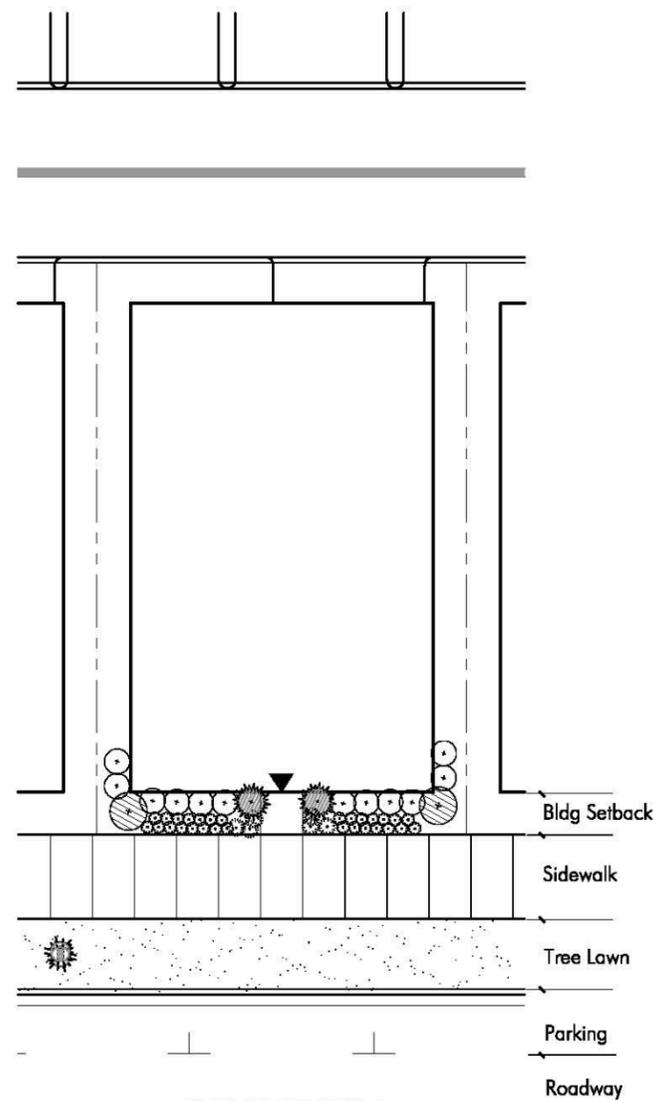
LANDSCAPING

Filtration benefits of swales can be substantially improved by planting deep-rooted grasses and by minimizing the side slope.

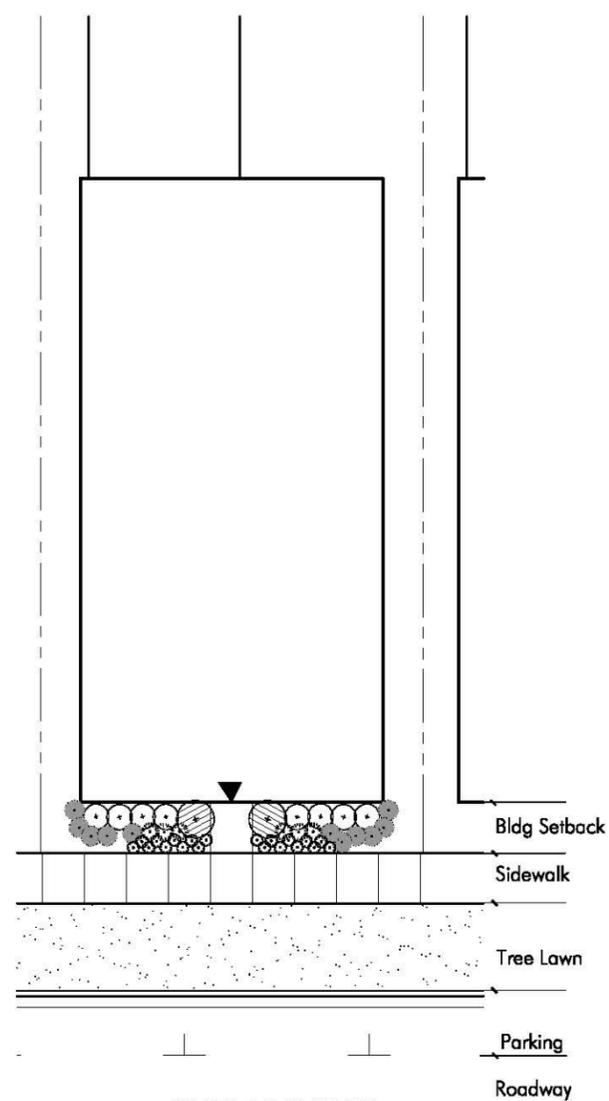
Appropriately selected vegetation can improve infiltration functions, protect the swale from rain and wind erosion and enhance overall aesthetics. Selected species should not require irrigation after establishment.



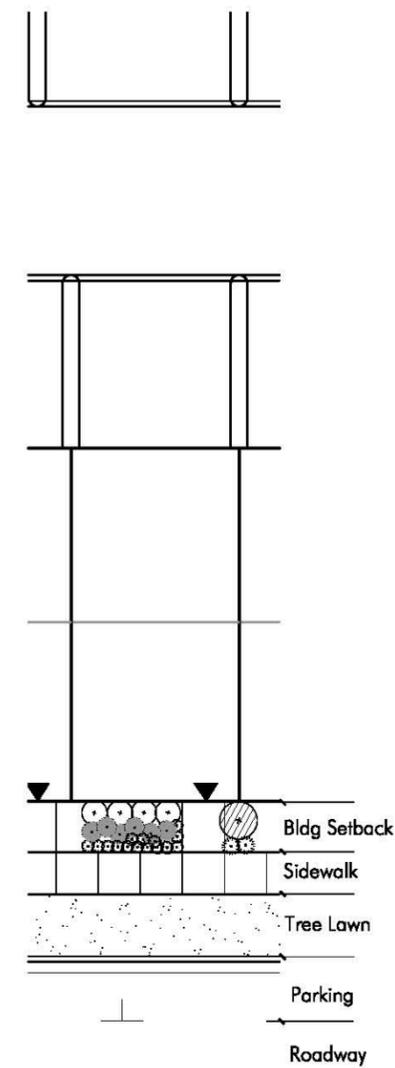
UNIT TYPICALS - LANDSCAPE MATERIALS



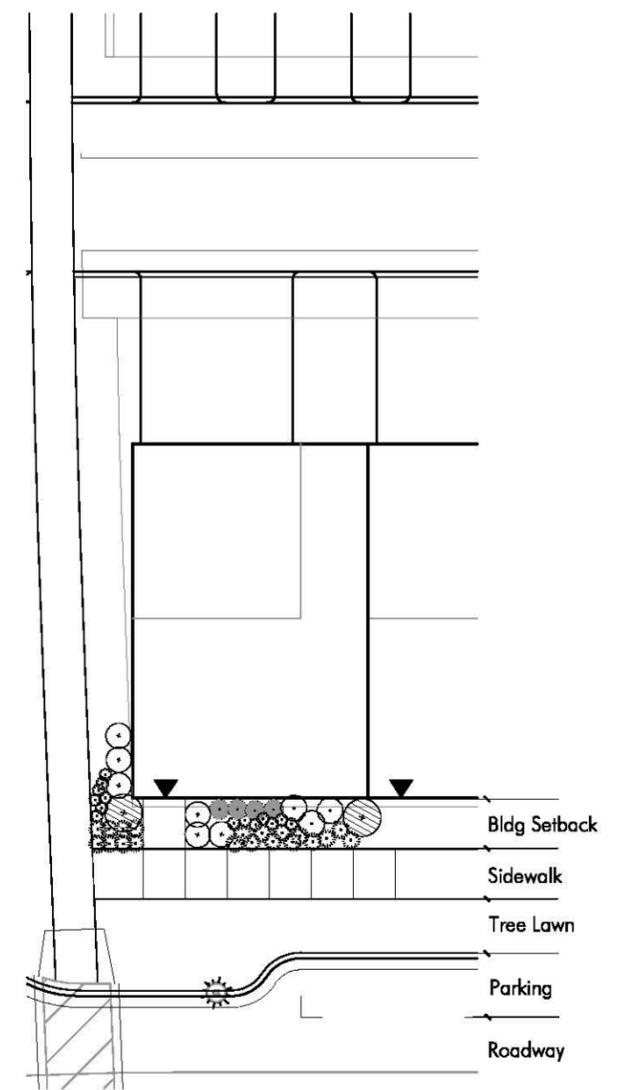
SINGLE FAMILY 'A'
REAR LOADED GARAGE



SINGLE FAMILY 'B'
REAR LOADED GARAGE



TOWNHOUSE 16- 28'
REAR LOADED GARAGE



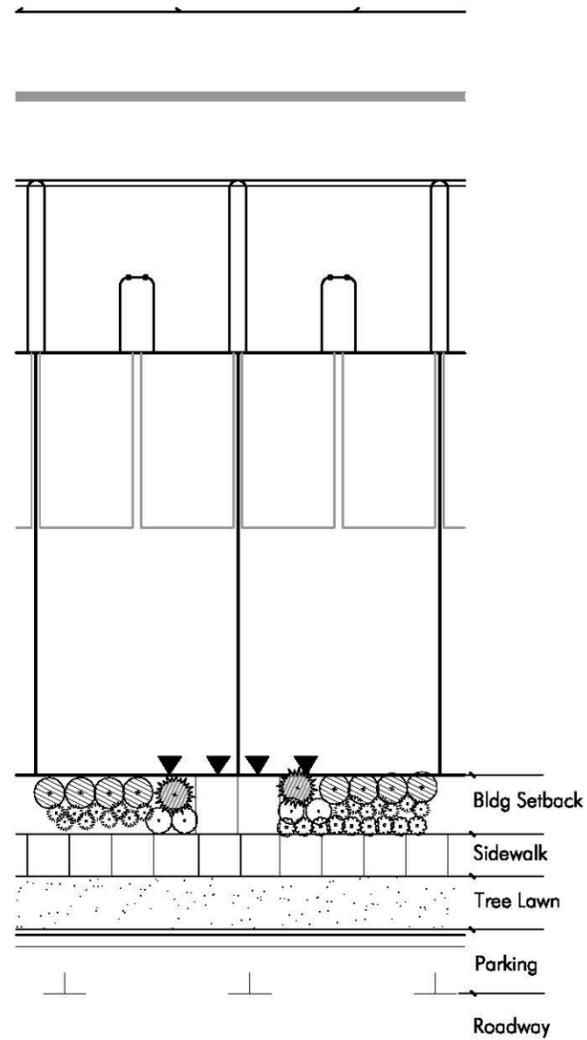
TOWNHOUSE END UNIT 28'
REAR LOADED GARAGE

LEGEND

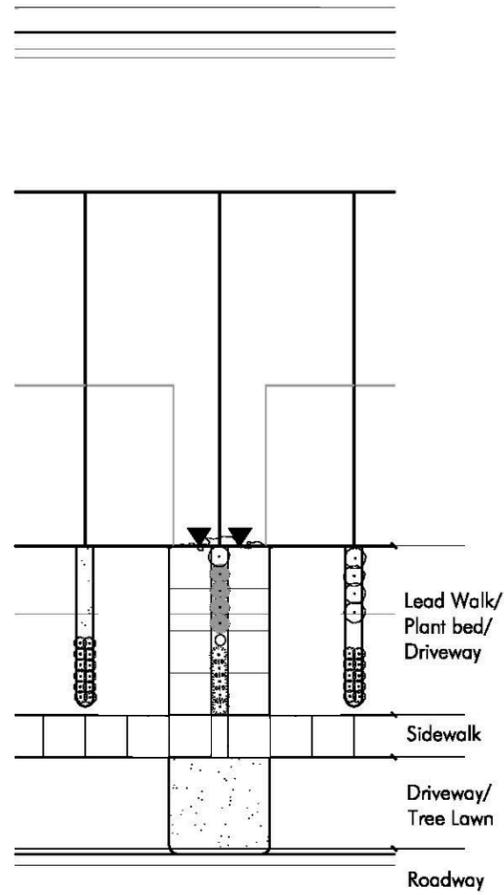
-  EVERGREEN SHRUB
-  DECIDUOUS SHRUB
-  PERENNIAL OR ORNAMENTAL GRASS

NOTE: ALL PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE. FINAL LAYOUT OF PLANTINGS WILL BE DETERMINED AT SITE PLAN AND ARE TO REFLECT FINAL ARCHITECTURE. PRIVATE RESIDENCES SHALL BE BUILT AND INITIALLY LANDSCAPED BY THE DEVELOPER OF RECORD. IF DESIRED, RESIDENTS ARE PERMITTED TO CHANGE LANDSCAPING MATERIALS IN ACCORDANCE WITH HOA REGULATIONS.

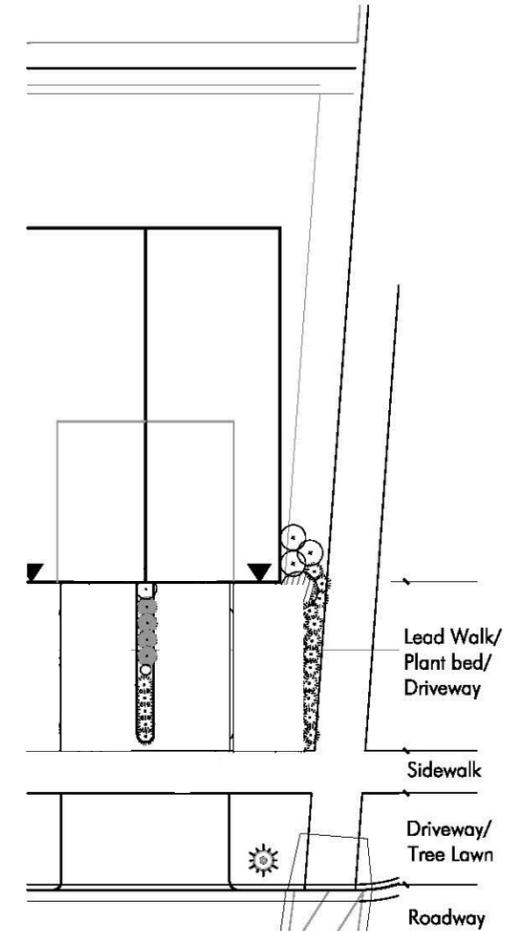
UNIT TYPICALS - LANDSCAPE MATERIALS



2 OVER 2 UNIT
REAR LOADED GARAGE



TOWNHOUSE 16'
FRONT LOADED GARAGE



END UNIT TOWNHOUSE 16'
FRONT LOADED GARAGE

LEGEND



EVERGREEN SHRUB



DECIDUOUS SHRUB



PERENNIAL OR
ORNAMENTAL GRASS

NOTE: ALL PLANS ARE CONCEPTUAL AND SUBJECT TO CHANGE. FINAL LAYOUT OF PLANTINGS WILL BE DETERMINED AT SITE PLAN AND ARE TO REVLUCT FINAL ARCHITECTURE. PRIVATE RESIDENCES SHALL BE BUILT AND INITIALLY LANDSCAPED BY THE DEVELOPER OF RECORD. IF DESIRED, RESIDENTS ARE PERMITTED TO CHANGE LANDSCAPING MATERIALS IN ACCORDANCE WITH HOA REGULATIONS.

UNIT TYPICALS - UTILITY LOCATIONS

Utilities and Mechanical Equipment

The visual and noise impacts of utilities, mechanical equipment, data transmission, et al shall be reasonably minimized by the use of the following design and installation principles:

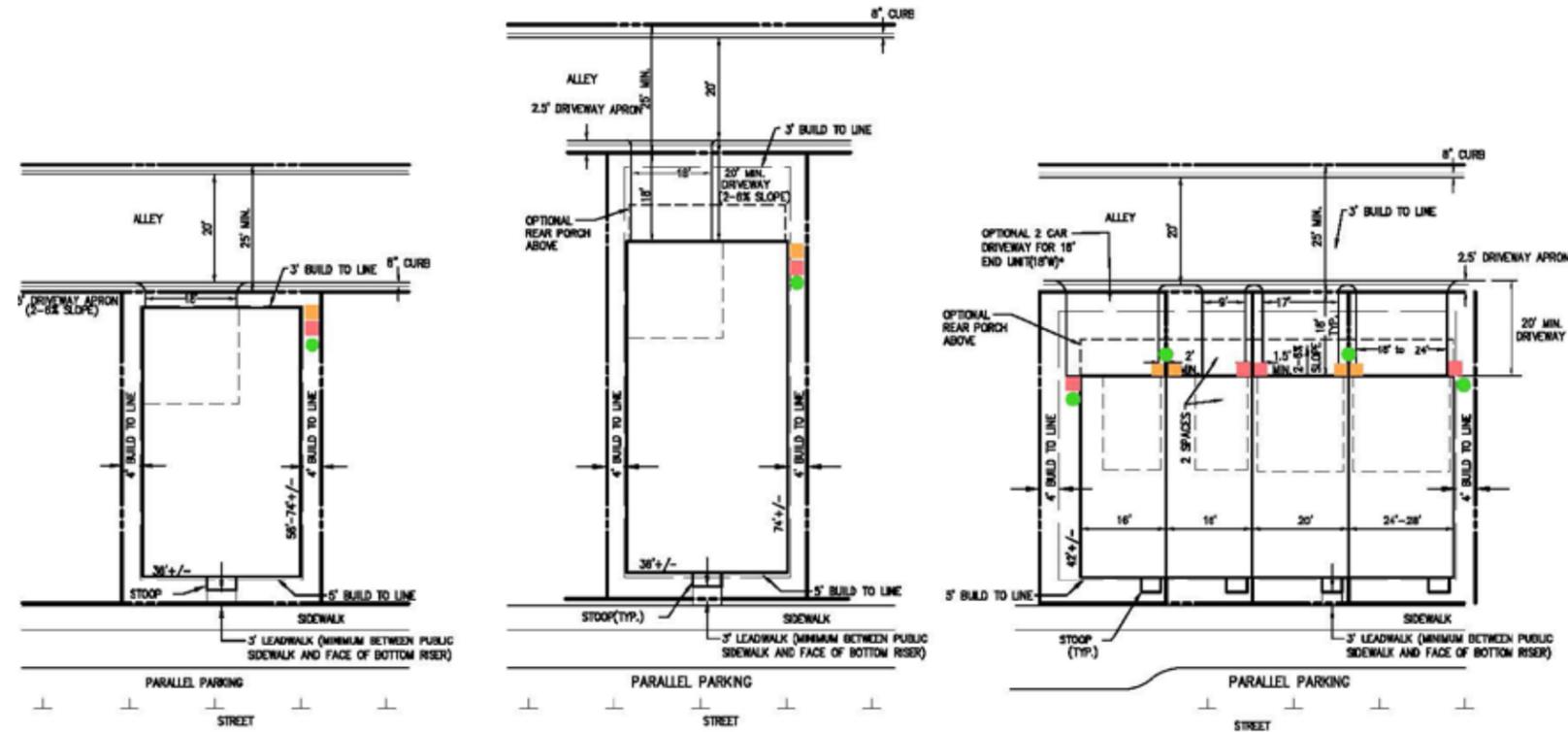
1. Install all permanent utility lines underground
2. Utility locations shall be generally located to the rear of lots, except when the situation dictates otherwise
3. Locate transformers away from major pedestrian routes and outdoor seating where possible
4. Buffer all transformers, telecommunication devices, equipment switching boxes et al from street and pedestrian areas with landscaping or architectural screens where possible

Equipment where architecturally located shall be hidden from public view or screened in an attractive but unobtrusive way

6. The following methods of screening equipment are allowable:

- a. berms
- b. depressions
- c. walls
- d. fences
- e. landscaping
- f. architectural integration

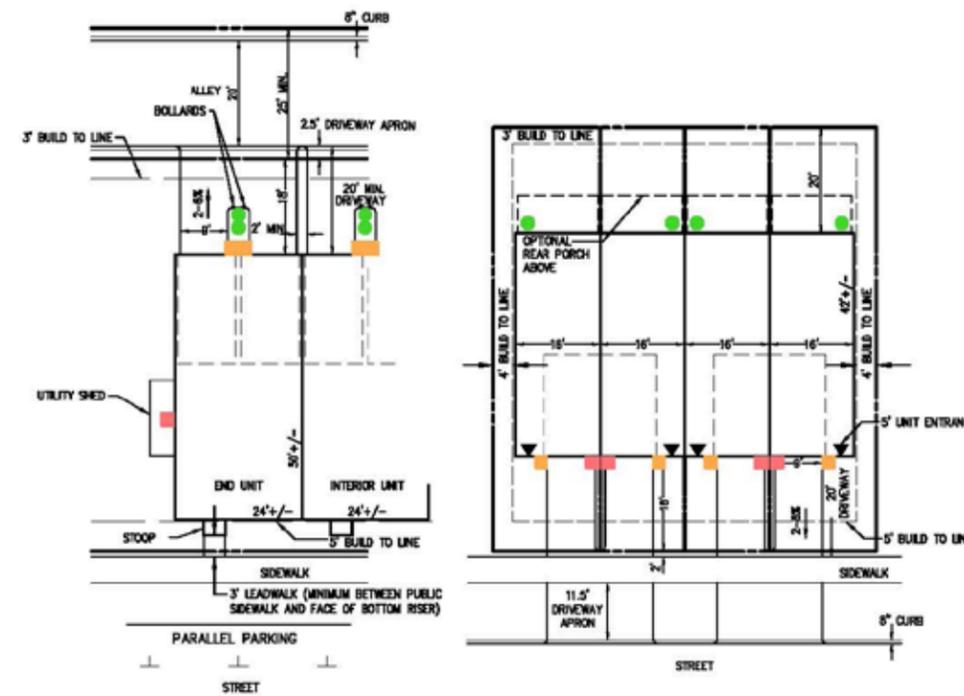
7. Transformers, CATV, and Telephone Distribution, et al will be located in alleyways, side yards, and rear yards. HVAC equipment will be located in side yards or rear yards. If such equipment is located in side yards within 15



**SINGLE FAMILY-A
REAR LOADED GARAGE**
44' X 66'(+/-) VARIES

**SINGLE FAMILY-B
REAR LOADED GARAGE**
45' X 98'(+/-) VARIES

**TOWNHOUSE- T16 TO T28
REAR LOADED GARAGE**
16-28' (VARIES) X 66' MIN. (+/-)
(HAVE 1 CAR GARAGE)



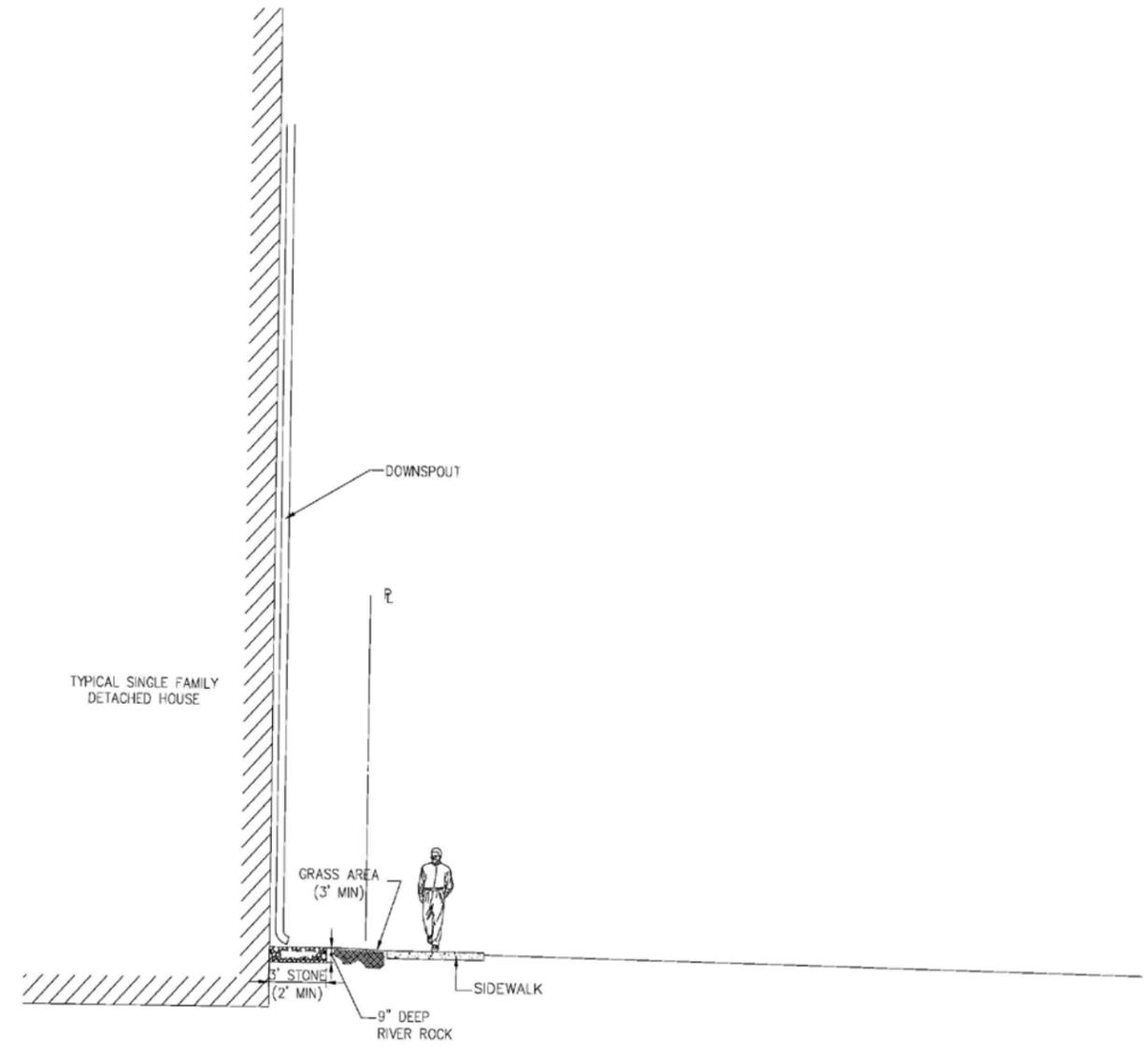
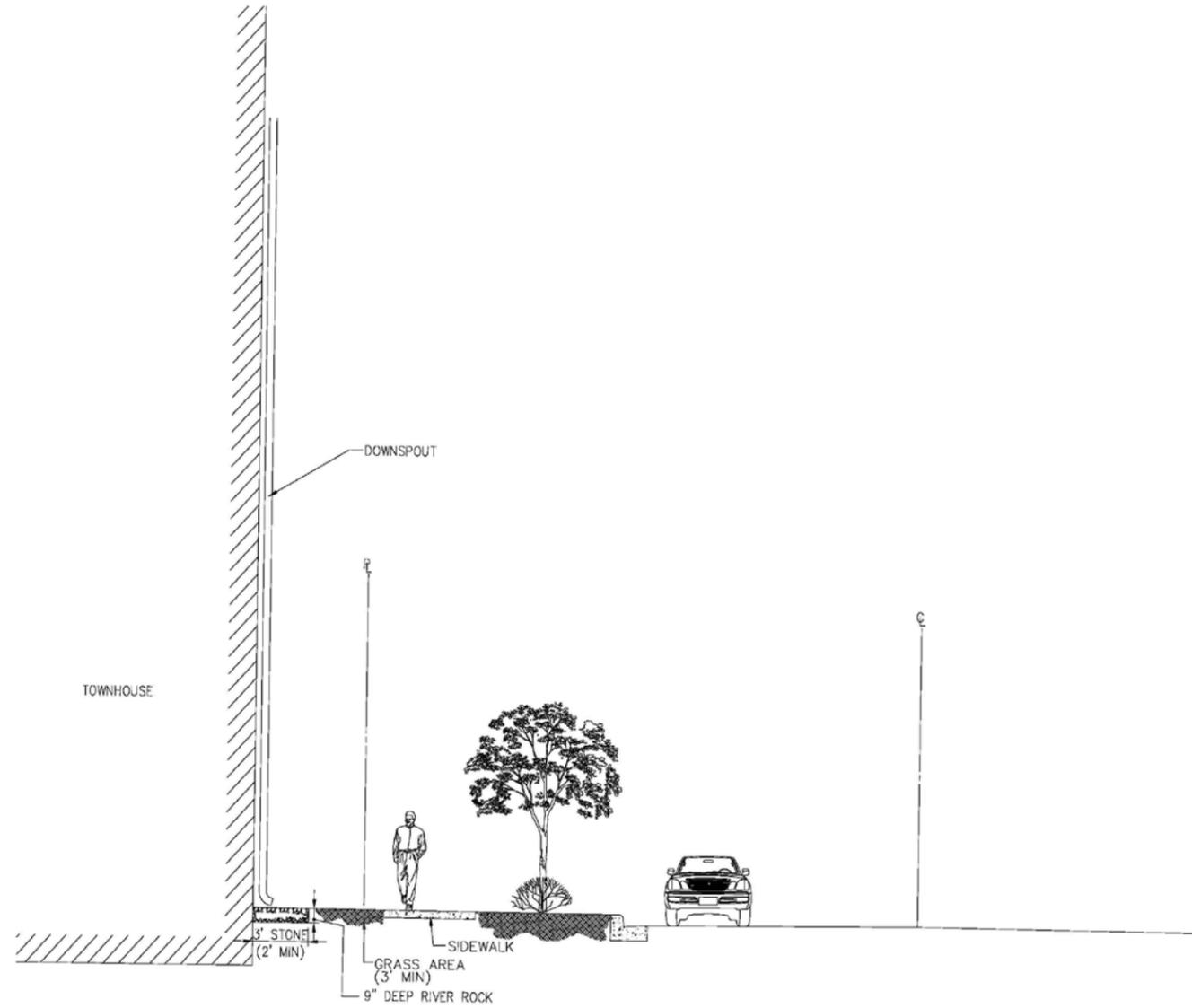
**2 OVER 2 UNIT
REAR LOADED GARAGE**
24' X 50'

**TOWNHOUSE- T16
FRONT LOADED GARAGE**
16' X 80' MIN. (+/-)
(16' TOWNHOUSES HAVE 1 CAR GARAGE)

Legend

- HVAC
- Electricity Meter
- Gas Meter

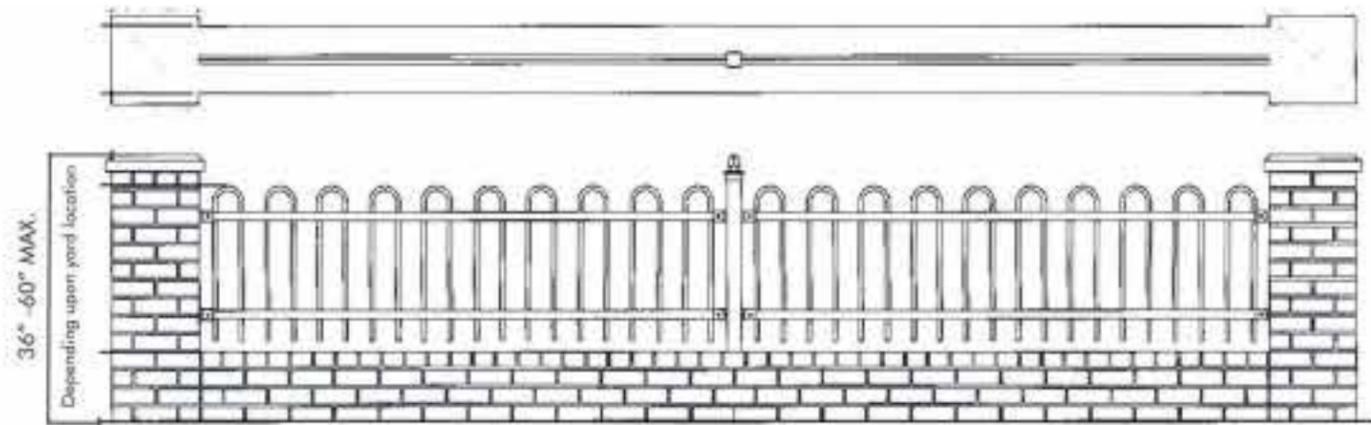
UNIT TYPICALS - DOWNSPOUT DETAILS



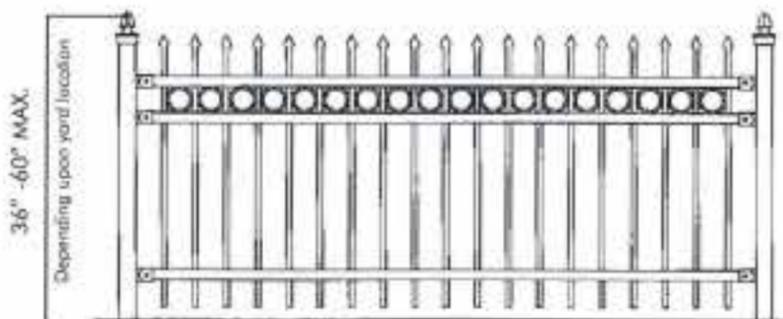
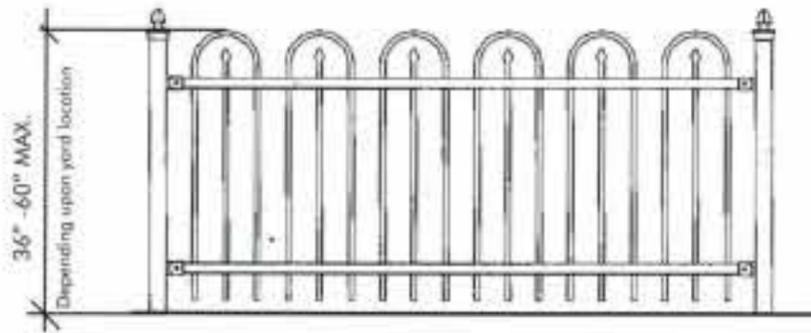
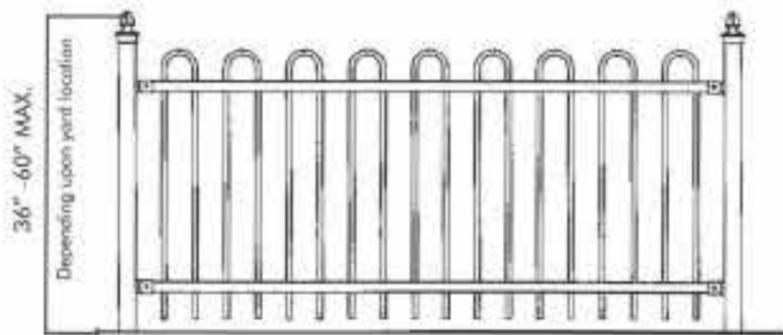
METAL PICKET FENCING

Fencing on Multi-Family property and some townhouses shall be metal pickets. Metal pickets shall be constructed aluminum or iron and finished with black paint. The following metal picket fencing types are permitted in Crown. Variations on the following design will be considered.

Property corners must be established prior to the installation of fences. All fences must be installed within 2" from the adjoining lot so that encroachment does not occur. Gates shall match the design, material, and color of the associated fence.

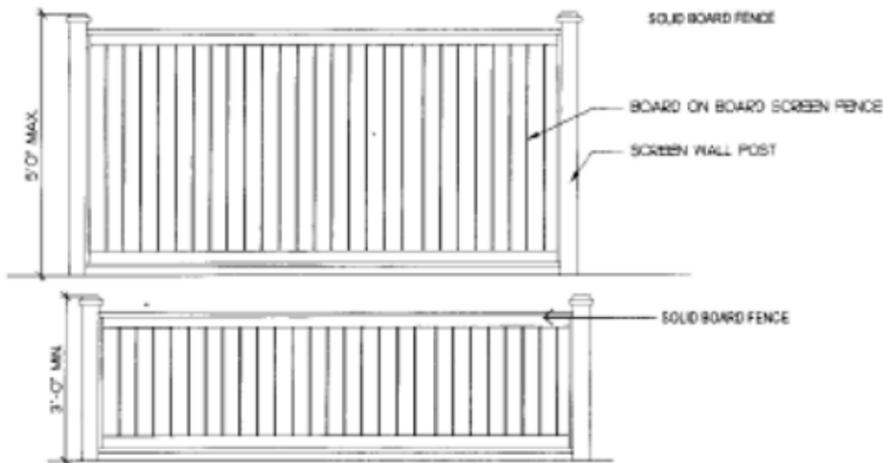


Metal Picket Fence

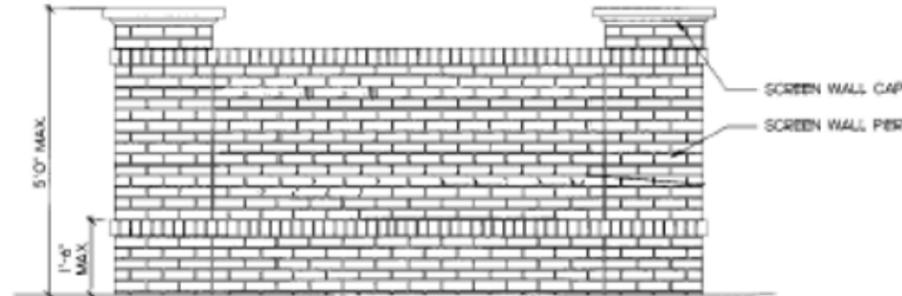


SCREENING

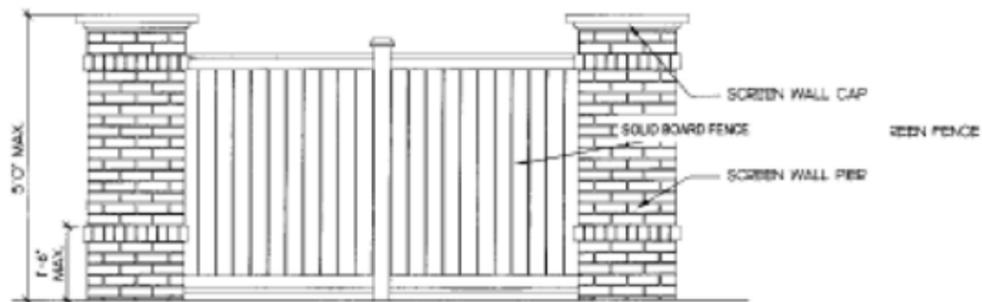
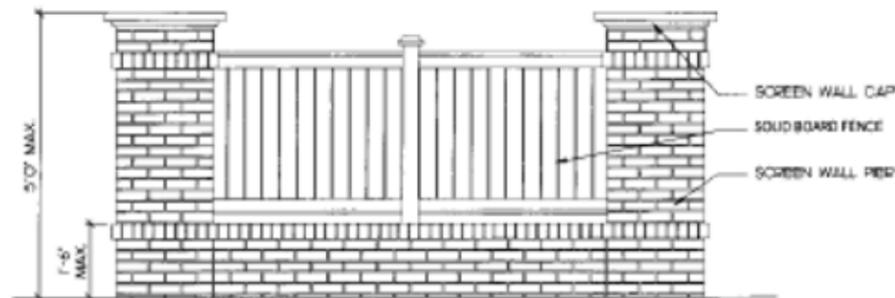
Board on Board Screen Fence



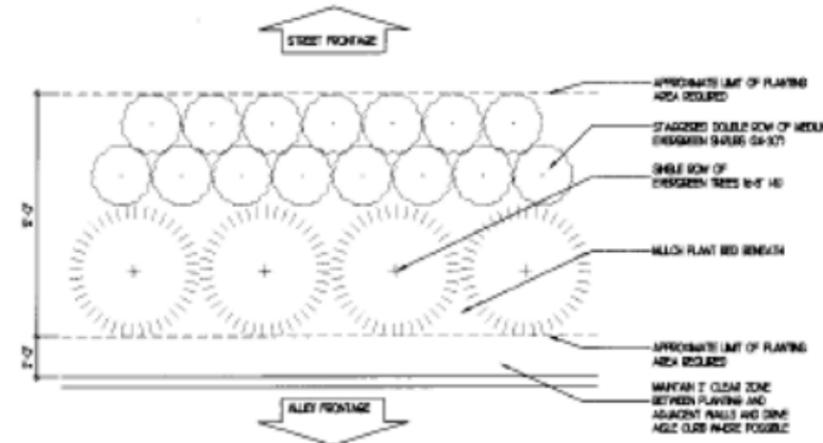
Masonry Screen Wall



Board on Board Screen Fence with Masonry Base



Evergreen Shrub Screening



Screening.

Screen fencing will be used to screen objectionable views, including views into all alleys, utilities, refuse areas, and parking areas. It shall be used at all alley entry points in order to screen parking and dead ends of alley. Screen fencing is prohibited in the front yards of all units. Screen fencing shall be either board-on board with a masonry base, or entirely masonry. It must be a minimum of 36 inches and a maximum of 60 inches in height. Tandem parking spaces will be screened between driveways in alleys. If space permits, all screening will have landscape material installed on the street side. Landscape screening may be used at the ends of alleys rather than a screen wall where conditions do not permit the use of a wall. All landscape screening must be in accordance with the screening details. Long slopes equal increment level fence steps are to be used. Gates should match adjoining fences and shall swing into the property that it is enclosing. Chain link fencing and gates shall be prohibited.



CITY OF GAITHERSBURG

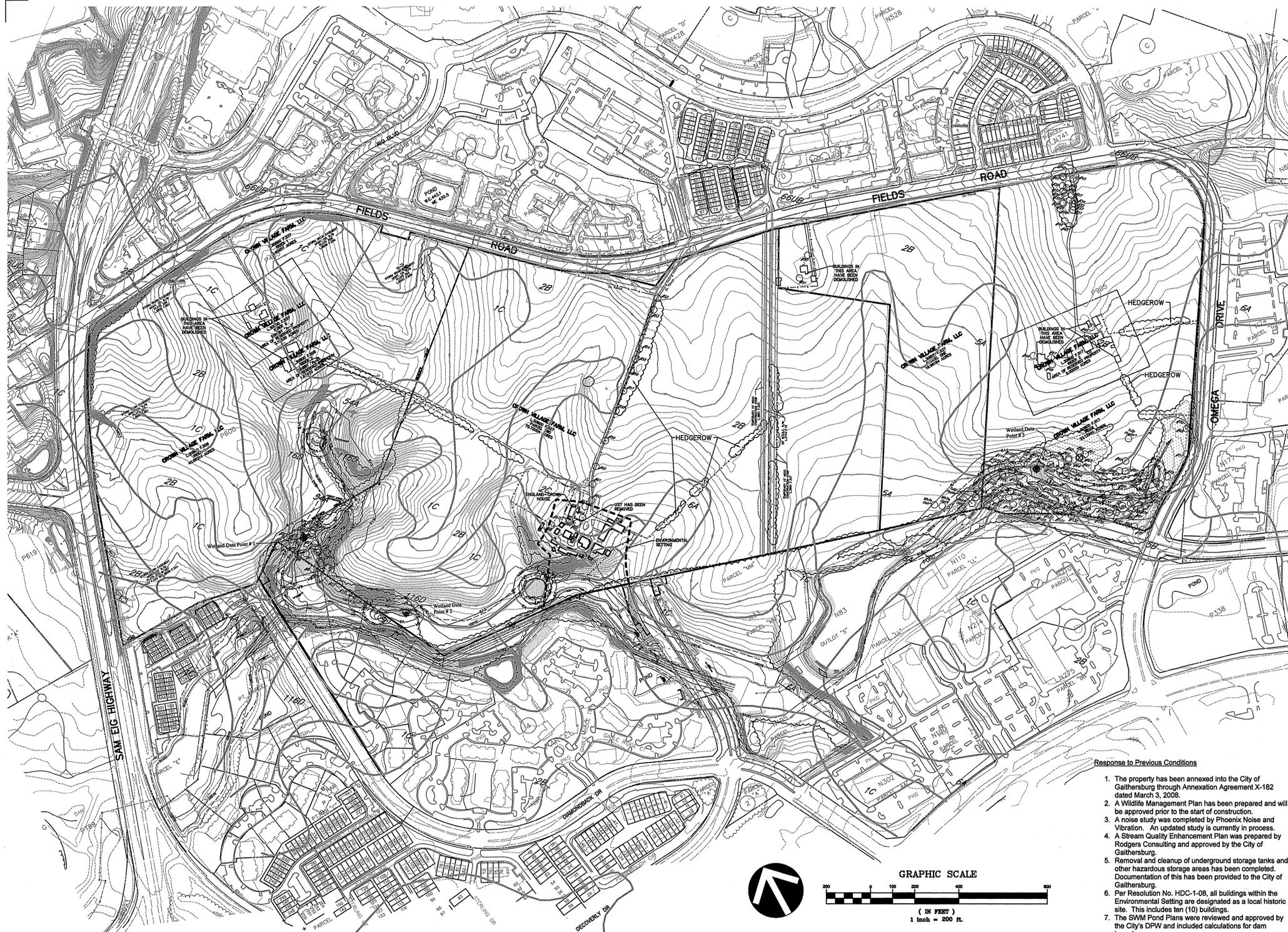
DEVELOPMENT TEAM

WESTBROOK PROPERTIES

CONSULTANT TEAM

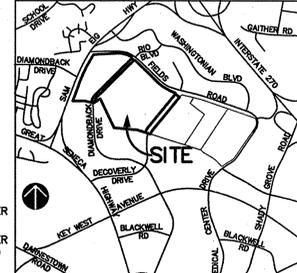
Perkins Eastman DC





LEGEND

- 5-100 FT. STREAM BUFFER
- 100-YEAR FLOODPLAIN
- 100-YEAR FLOODPLAIN BRL
- WETLANDS DELINEATION
- WETLAND BUFFER (50' CITY)
- FOREST STAND
- 126 ○ SPECIMEN TREE & TREE NUMBER
- Tulip Poplar ○ SPECIMEN TREE & TREE NUMBER (AS INVENTORIED LOCATED AND REQUESTED BY CITY OFFICIALS)
- WETLAND DATA POINT
- SP#4 ▲ FOREST SAMPLE POINT
- EXISTING TREELINE
- 1C SOILS TEXT TYPE
- SOIL LINE
- WATERS OF THE US
- EXISTING PERENNIAL/INTERMITTENT STREAM
- 15-25% SLOPES
- SLOPES 25% AND GREATER
- ENVIRONMENTAL SETTING



VICINITY MAP
SCALE: 1" = 2000'
CROWN FARM

GENERAL NOTES

- THE SUBJECT PROPERTY IS APPROXIMATELY 177.9 ACRES + AND IS COMPRISED OF PARCELS P600, P445, P820, P905 & P833 AS FOUND ON MONTGOMERY COUNTY TAX MAPS FS341, FS342, FS562, AND FS561. THIS PLAN IS BASED ON THE PREVIOUSLY APPROVED NRI PREPARED BY ROGERS AND ASSOCIATES. THIS PLAN IS UPDATED TO REFLECT THE REMOVAL OF BUILDINGS AND UNDERGROUND STORAGE TANKS. FOREST STAND AND SPECIMEN TREE INFORMATION AS WELL AS WETLAND DELINEATION REMAINS AS IT WAS SHOWN ON PREVIOUSLY APPROVED PLAN.
- BOUNDARY INFORMATION IS BASED UPON A BOUNDARY SURVEY CONDUCTED BY ROGERS CONSULTING, INC., JULY 2005.
- THE PROPOSED CORRIDORS CITIES TRANSIT MAY TRAVERSE THE PROPERTY. THE APPROXIMATE ALIGNMENT ENTERS THE PROPERTY NEAR DECOVERLY DR. AND THE INTERSECTION OF OMEGA AND FIELDS RD.
- SOILS DELINEATION IS DIGITIZED FROM THE MONTGOMERY COUNTY SOILS SURVEY, JULY 1985 ISSUE, MAP 19 AND HAVE BEEN ADJUSTED TO CONFORM TO THE TOPOGRAPHIC CONDITIONS OF THE SITE.
- WETLAND DELINEATION CONDUCTED BY MCCARTHY & ASSOCIATES, INC., JULY 2005. THE SURVEY OF THE WETLANDS DELINEATION WAS CONDUCTED BY PATTON, HARRIS, RUST AND ASSOCIATES, PC, JULY 2005. WETLAND DELINEATION AND SURVEY LIMITED TO SUBJECT PROPERTY. A JURISDICTIONAL DETERMINATION (JD) CONFIRMING THE WETLANDS DELINEATION WAS CONDUCTED BY THE U.S. ARMY CORPS OF ENGINEERS DATED SEPT. 15, 2005.
- 100-YEAR FLOODPLAIN WAS DETERMINED BY ROGERS CONSULTING, INC. SEPTEMBER 2005. THE SUBJECT PROPERTY HAS 6.02 ACRES +/- 100-YEAR FLOODPLAIN.
- THE 2' TOPOGRAPHY IS BASED UPON AERIAL PHOTOGRAPHY FLOWN IN JUNE 2005 BY RICE ASSOCIATES. THE AERIAL PHOTOGRAPHY WAS SUPPLEMENTED BY FIELD SURVEY BY PATTON, HARRIS, RUST AND ASSOCIATES AND PROVIDED IN DIGITAL FORMAT TO ROGERS CONSULTING, INC.
- THE IDENTIFICATION AND INVENTORY OF TREES SHOWN AND LABELED HEREON WAS CONDUCTED BY MCCARTHY & ASSOCIATES, INC., JULY 2005. THE SURVEY OF THESE TREES WAS CONDUCTED BY PATTON, HARRIS, RUST, AND ASSOCIATES, PC, JULY 2005.
- THE SUBJECT PROPERTY IS WITHIN THE MUDDY BRANCH WATERSHED, WHICH IS A USE CLASS 1 WATERSHED. TOTAL STREAM VALLEY BUFFER IN THE PROPERTY IS 15.05 ACRES +/-.
- THE SUBJECT PROPERTY HAS 0.88 ACRES +/- WETLANDS.
- THE HISTORIC ENGLAND/CROWN HOUSE, ASSOCIATED STRUCTURES AND SETTING ARE LOCATED ON PARCEL 833, AS FOUND WITHIN THE SUBJECT PROPERTY.

SPECIMEN TREE NOTES

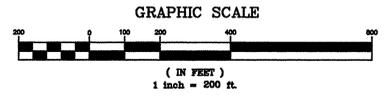
- THE PROJECT SITE CONTAINS 141 SPECIMEN TREES. ALL SPECIMEN TREES HAVE BEEN FIELD LOCATED BY PHRA IN AUGUST 2005.
- TREES 24" AND LARGER AT 4 1/2" DIAMETER AT BREAST HEIGHT WERE IDENTIFIED BY PLACING PINK FLAGGING AROUND EACH TREE. THE S.T. NUMBER, DIAMETER AND SPECIES OF THE TREE WERE WRITTEN ON THE FLAGGING.
- TREES 24" DBH AND LARGER WITHIN THE "FORESTED" AREAS WERE IDENTIFIED AS SPECIMEN TREES. TREES 14" AND LARGER LOCATED OUTSIDE OF "FORESTED" AREAS WERE ALSO FLAGGED AND INDICATED AS "SPECIMEN TREES".

FOREST STAND TYPES

- STAND 'A':** SUCCESSIONAL / TRANSITIONAL: TULIP POPLAR, RED MAPLE, TREE OF HEAVEN, BLACK WALNUT, RED CEDAR, SWEET GUM (MAJORITY OF TREES ARE IN THE 2" - 4" DBH SIZE CLASS AND RANGE FROM 10-15" TALL)
- STAND 'B':** MATURE HARDWOODS: (LOCATED ALONG STREAM CHANNEL AND ADJACENT SOILS. PRONE TO FLOODING), TULIP POPLAR, RED MAPLE & MIXED OAKS - MANY OF THE TREES ARE 24.0" DBH AND LARGER
- STAND 'C':** TRANSITIONAL / IMMATURE: (SMALL TO POLETIMBER SIZE CLASSES, PRIMARILY 2" - 6" DBH SIZE CLASSES) PRIMARILY TULIP POPLAR WITH SCATTERED BLACK CHERRY AND RED MAPLE. MOST LIKELY AN ABANDONED PASTURE NATURALLY REVERTING INTO A YOUNG FOREST.
- STAND 'E':** SAWTIMBER, POLETIMBER, AND MATURE MIXED HARDWOODS: DOMINATED BY TULIP POPLAR AND RED MAPLE (MAYNANT TREES RANGE FROM 6" - 24" +/-). POCKETS OF SMALLER SIZE TREES LOCATED THROUGH THE STANDS)

Response to Previous Conditions

- The property has been annexed into the City of Gaithersburg through Annexation Agreement X-182 dated March 3, 2008.
- A Wildlife Management Plan has been prepared and will be approved prior to the start of construction.
- A noise study was completed by Phoenix Noise and Vibration. An updated study is currently in process.
- A Stream Quality Enhancement Plan was prepared by Rodgers Consulting and approved by the City of Gaithersburg.
- Removal and cleanup of underground storage tanks and other hazardous storage areas has been completed. Documentation of this has been provided to the City of Gaithersburg.
- Per Resolution No. HDC-1-08, all buildings within the Environmental Setting are designated as a local historic site. This includes ten (10) buildings.
- The SWM Pond Plans were reviewed and approved by the City's DPW and included calculations for dam breaches.



SPECIMEN TREE LIST

Tree #	Common Name	DBH	Comments
1	Tulip poplar	48.8"	(fair to good condition-may not be on project site)
2	White oak	27.9"	(fair condition)
3	Tulip poplar	31.1"	(poor to fair condition)
4	Tulip poplar	34.9"	(good condition-may not be on project site-line tree?)
5	Tulip poplar	34.8"	(good condition)
6	Tulip poplar	38.4"	(good condition-property line tree?)
7	Tulip poplar	32.2"	(fair to good condition-property line tree?)
8	Tulip poplar	34.9"	(fair to good condition-property line tree?)
9	Tulip poplar	29.1"	(good condition-property line tree?)
10	White oak	35.1"	(fair condition-may not be on project site-line tree?)
11	Tulip poplar	36.7"	(good condition-may not be on project site-line tree?)
12	Tulip poplar	30.2"	(good condition-may not be on project site-line tree?)
13	Tulip poplar	34.8"	(good condition-may not be on project site-line tree?)
14	Tulip poplar	30.1"	(poor condition-almost dead)
15	White oak	30.1"	(good condition)
16	Tulip poplar	27.0"	(fair condition)
17	Tulip poplar	36.7"	(fair condition)
18	Tulip poplar	25.3"	(good condition)
19	Tulip poplar	37.2"	(good condition)
20	White oak	32.1"	(poor to fair condition)
21	Tulip poplar	49.2"	(poor to fair condition)
22	Tulip poplar	33.1"	(fair condition)
23	Tulip poplar	37.1"	(fair condition)
24	Black walnut	25.1"	(fair to good condition)
25	Tulip poplar	30.9"	(fair condition)
26	Black walnut	26.2"	(good condition)
27	Pignut hickory	22.9"	(fair condition)
28	Pignut hickory	17.1"	(poor to fair condition)
29	Bitternut hickory	19.2"	(fair condition)
30	Black oak	35.4"	(poor to fair condition)
31	Southern red oak	21.4"	(fair condition)
32	Southern red oak	24.9"	(poor to fair condition)
33	Southern red oak	25.7"	(fair condition)
34	Southern red oak	30.9"	(poor to fair condition)
35	Virginia pine	20.7"	(fair condition-has nails in it)
36	Fignut hickory	16.6"	(poor to fair condition-damage to branches by cicadas?)
37	Bitternut hickory	23.8"	(good condition)
38	Bitternut hickory	15.7"	(fair condition, has splits and nails in it)
39	Bitternut hickory	25.7"	(poor condition, tree appears to be dying)
40	Tulip poplar	17.7"	(poor condition)
41	Bitternut hickory	19.7"	(good condition)
42	Pignut hickory	18.6" & 15.1"	(2 stems, poor condition)
43	Southern red oak	49.6"	(poor condition)
44	Moderum hickory	19.0"	(poor condition)
45	Bitternut hickory	21.2"	(poor to fair condition)
46	Black walnut	27.0"	(dying)
47	Silver maple	39.3"	(poor condition, 2 stems, rot and decay where stems fork)
48	Silver maple	39.4"	(poor condition)
49	Norway maple	21.6"	(poor condition, multiple stems & large crack)
50	Red maple	32.9"	(poor to fair condition)
51	Tulip poplar	30.2"	(fair condition)
52	Red maple	35.7"	(fair condition)
53	Red maple	39.9"	(fair condition)
54	Red maple	53.4"	(poor condition)
55	Red maple	54.0"	(almost dead)
56	Red maple	36.0"	(dying)
57	Red maple	34.9"	(dying)
58	Red maple	37.0"	(almost dead)
59	Red maple	38.2"	(almost dead)
60	Honey locust	16.0"	(good condition)
61	Honey locust	11.0" - 18.3" - 18.4"	(3 stems, all in fair to good condition)
62	American holly	24.7"	(good condition)
63	Silver maple	52.7"	(fair condition)
64	Silver maple	24.9"	(poor to fair condition)
65	Silver maple	25.7"	(poor to fair condition)
66	Silver maple	49.5"	(poor condition, 2 stems, rot at fork & at base of tree)
67	Honey locust	35"	(fair to good condition)
68	Honey locust	31.9"	(poor condition-rot at base and where multiple stems fork)
69	Scarlet oak	40.9"	(fair to good condition)
70	Scarlet oak	35.7"	(fair to good condition)
71	Red maple	26.9"	(fair to good condition)
72	Red maple	32.6"	(fair to good condition)
73	Tulip poplar	25.4"	(fair to good condition)
74	Black oak	28.4"	(fair condition)
75	White oak	23.6"	(fair condition)
76	Tulip poplar	27.0"	(good condition)
77	Tulip poplar	32.2"	(good condition)
78	Tulip poplar	32.6"	(good condition)
79	Red maple	25.8"	(fair condition)
80	Red maple	28.6"	(fair condition)
81	Tulip poplar	32.0"	(poor to fair condition-rot at base of tree)
82	Red maple	39.1"	(fair condition)
83	Tulip poplar	31.6"	(fair condition)
84	Scarlet oak	33.5"	(fair to good condition)
85	Red maple	36.1"	(fair to good condition, forks at 7 feet, possible rot at crotch)
86	Shingle oak	35.6"	(poor condition, dead/dying)
87	Red maple	27.2"	(fair condition)
88	Tulip poplar	30.0"	(poor to fair condition)
89	Tulip poplar	30.2"	(fair to good condition)
90	Tulip poplar	33.6"	(good condition)
91	Tulip poplar	34.9"	(poor to fair condition, possible internal rot and decay along bole of tree)
92	Tulip poplar	33.5"	(good condition)
93	Tulip poplar	36.2"	(fair condition)
94	Tulip poplar	34.3"	(good condition)
95	Tulip poplar	35.4"	(good condition) TREES 94 & 95 are from stump sprouts and meet at ground
96	Tulip poplar	33.2"	(good condition)
97	Tulip poplar	36.1"	(good condition)
98	Tulip poplar	49.6"	(poor condition)
99	White oak	36.4"	(poor to fair condition)
100	Sycamore	35.0"	(good condition)
101	White oak	37.8"	(poor condition)
102	Sycamore	29.4"	(poor condition)
103	Tulip poplar	27.2"	(fair to good condition)
104	Swamp white oak	35.3"	(good condition)
105	Tulip poplar	29.3"	(good condition)
106	Tulip poplar	29.0"	(poor to fair condition)
107	White oak	33.2"	(fair condition)
108	Tulip poplar	33.7"	(fair condition, forks at 6' +/- possible rot at fork & at ground level)
109	White oak	34.8"	(poor condition, extensive rot from ground level up to 20', may not be on project site)
110	Black oak	27.7"	(good condition)
111	Black oak	31.1"	(good condition)
112	Tulip poplar	26.1"	(good condition)
113	Tulip poplar	25.9"	(good condition)
114	Tulip poplar	31.8"	(good condition)
115	Tulip poplar	26.3"	(good condition)
116	Tulip poplar	28.6"	(good condition)
117	Tulip poplar	32.7"	(good condition)
118	Tulip poplar	26.2"	(good condition-near property line, may not be on project site)
119	Tulip poplar	32.8"	(good condition-near property line, may not be on project site)
120	White oak	28.2"	(good condition-near property line, may not be on project site)
121	White oak	31.8"	(fair condition)
122	Black oak	31.0"	(good condition)
123	Black oak	25.3"	(poor condition, almost dead, struck by lightning?)
124	Tulip poplar	33.3"	(good condition, close to property line, may not be on project site?)
125	Tulip poplar	28.0"	(good condition)
126	Tulip poplar	28.8"	(fair to good condition)
127	Tulip poplar	26.2"	(good condition)
128	Tulip poplar	31.1"	(good condition)
129	Tulip poplar	35.5"	(fair to good condition)
130	Tulip poplar	28.9"	(poor to fair condition-2 stems, fork at 4' from ground, possible decay at crotch)
131	Tulip poplar	28.2"	(fair to good condition-near property line)
132	Tulip poplar	26.7"	(good condition)
133	Tulip poplar	29.1"	(good condition)
134	Tulip poplar	28.6"	(good condition) 133 & 134 are stump sprouts from previously being cut, but the stems do not touch
135	Red maple	17.4"	(good condition)
136	Tulip poplar	35.3"	(fair to good condition, 2 stems fork at 4 feet from ground)
137	Tulip poplar	30.6"	(good condition)
138	Black oak	33.0"	(poor to fair condition-dead branches and poorly formed crown)
139	Tulip poplar	34.7"	(poor condition, rot at crotch & large cavity 8' from ground)
140	Tulip poplar	25.2"	(good condition)
141	Tulip poplar	28.1"	(good condition)

AREA INFORMATION

AREA OF SUBJECT PROPERTY	177.9 +/- ACRES
AREA WITHIN STREAM VALLEY BUFFER	15.05 +/- ACRES
AREA WITHIN 100 YR FLOODPLAIN*	6.02 +/- ACRES
AREA WITHIN WETLANDS*	0.88 +/- ACRES
AREA OF FORESTS	7.52 +/- ACRES

*INDICATES AREA IS WITHIN SWB

SOILS LEGEND

SYMBOL	SOIL	COMMENTS (PER SOIL SURVEY)
1C	GAILA SILT LOAM, 8-15% SLOPES	
2B	GLENELG SILT LOAM, 3-8% SLOPES	
2C	GLENELG SILT LOAM, 8-15% SLOPES	
5A	GLENVILLE SILT LOAM, 0-3% SLOPES	
5B	GLENVILLE SILT LOAM, 0-3% SLOPES	
6A	BAILE SILT LOAM, 0-3% SLOPES	HYDRIC
7D	BRINKLOW-BLOCKTOWN CHANNERY SILT LOAM, 15-25% SLOPES	HIGHLY ERODIBLE
8A	HATBORO SILT LOAM, 0-3% SLOPES	HYDRIC
7E	BLOCKTOWN CHANNERY SILT LOAM, 15-25% SLOPES	

A MARYLAND REGISTERED PROFESSIONAL ENGINEER OR ARCHITECT SEAL AND SIGNATURE ON PLANS WILL BE ACCEPTED AS PRIMA FACIE EVIDENCE THAT PLANS ARE IN COMPLIANCE WITH APPLICABLE CODES AND REGULATIONS.

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

Joint Hearing - MCC & PC
SDP-7354-2016
4a

AT THE REGULARLY SCHEDULED MEETING OF THE MAYOR AND CITY COUNCIL HELD ON APPLICATION NO. SDP-7354-2016 WAS GRANTED SCHEMATIC DEVELOPMENT PLAN APPROVAL BY RESOLUTION # _____ WITH _____ CONDITIONS.

DATE _____ BY _____

48 HOURS IN ADVANCE OF ANY WORK IN THIS VICINITY*

THE ENGINEER MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED CONSTRUCTION AND HAVE THEIR FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING CONSTRUCTION. THE ENGINEER IS RESPONSIBLE FOR COMPLIANCE WITH REGULATIONS OF CHAPTER 56A OF THE MONTGOMERY COUNTY CODE.

PROJECT/FIELD NO. M1436L
SHEET NO. 1

THE PLAINMETRIC INFORMATION SHOWN ON THIS PLAN IS BASED IN PART ON COPYRIGHTED GIS DATA FROM M-NCPPC, AND MAY NOT BE COPIED OR REPRODUCED WITHOUT EXPRESS WRITTEN PERMISSION FROM M-NCPPC.



Phoenix Noise & Vibration, LLC
5216 Chairmans Court, Suite 107
Frederick, Maryland 21703
301.846.4227 (phone)
301.846.4355 (fax)
www.phoenixnv.com

9 June 2015

Transportation Noise Analysis, Future Condition Crown Farm Neighborhoods 3 & 5 Montgomery County, Maryland

Report #150609

For: Westbrook Properties

By: Scott Harvey, P.E.
Kody Snow

EXECUTIVE SUMMARY

Phoenix Noise & Vibration has conducted a transportation noise impact analysis for the proposed multifamily building located on Crown Farm Neighborhoods 3 & 5 in Montgomery County, Maryland. This analysis is based upon the report “Transportation Noise Analysis, Future Condition, The Crown Farm” dated 30 August 2010 and includes updated computerized traffic noise modeling, future traffic noise level analysis, and contour delineation.

Transportation sources include roadway traffic and the future bus rapid transit (BRT) line. The analysis was carried out in accordance with standards set forth by Montgomery County.

The proposed building will be impacted by transportation noise, however with proper construction techniques recommended interior noise level requirements can be met. Acceptable indoor noise levels can be maintained when incorporating required modifications for noise mitigation into the proposed building construction. Modifications may include increased window and door STC rating requirements and adjusted exterior wall construction for residences impacted by transportation noise greater than or equal to 65 dBA Ldn. In order to ensure the achievement of the interior noise level, a building shell analysis is required for specific house or building plans proposed for the site.

Current sites do not show outdoor activity areas however site planning will likely locate such areas outside of the noise impact zone.

NOISE TERMINOLOGY

Ldn

The day-night average noise level, or Ldn, is the equivalent sound pressure level (average over a 24-hour period) obtained by adding 10 dB to sound pressure levels measured from 10:00 p.m. to 7:00 a.m. This 10 dB “penalty” accounts for the added sensitivity caused by noise generated during the nighttime hours. The Ldn is not a measurement of the instantaneous noise level.

The Ldn is sometimes referred to as the “DNL,” however both terms represent the same quantity. The Ldn is NOT a measurement of the instantaneous noise level. It is very possible to have several short term events (tractor trailer, emergency vehicle siren, car horn, etc.) which generate a relatively high noise level (e.g. 85 dBA) during a given time period, yet have a more moderate overall Ldn value (e.g. 65 dBA Ldn).

Leq

The equivalent continuous noise level, or Leq, is the noise level averaged over a given time period. The Leq does not include any penalties or adjustments. The Leq could represent the noise level over 5 minutes, one hour, the daytime (7:00 AM to 10:00 PM) or nighttime (10:00 PM to 7:00 AM) hours, etc.

dB vs. dBA

While the standard unit of measurement for sound is the decibel (dB), discussions of noise impacting the human ear use “dBA.” The “A” refers to a frequency weighting network used to simulate the human ear’s unequal sensitivity to different frequencies. The A-weighted noise level is therefore more representative of a human’s perception of a noise environment than the unweighted overall noise level in dB and is currently used in most all environmental noise studies.

STC Rating

The Sound Transmission Class (STC) rating is a single number value which indicates a building element’s (wall, window, door, roof, etc.) ability to reduce noise transmission from one side of the element to the other. The higher the STC rating, the more noise prevented from passing through that element.

NOISE REGULATIONS

Transportation noise impact for proposed residential developments in Montgomery County is governed by “Staff Guidelines for the Consideration of Transportation Noise Impacts in Land Use Planning and Development”, June 1983. Specifically for residential developments, the guidelines are presented in Table 2-1 on page 8, as reprinted here:

Table 2-1 Maximum Levels for Exterior Noise ant the Building Line¹ For Noise Sensitive Land Uses	
Guideline Value	Area of Application
Ldn = 55 dBA	This guideline is suggested as an appropriate goal in permanent rural areas of the County where residential zoning is for five or more acres per dwelling unit and background levels are low enough to allow maintenance of a 55 dBA Level. This guideline is consistent with Federal, State, and County goals for residential areas.
Ldn = 60 dBA	This is the basic residential noise guideline which will be applied in most areas of the County where suburban densities predominate. Maintenance of this level will protect health and substantially prevent activity interference both indoors and outdoors. Noise attenuation measures will be recommended to allow attainment of this level.
Ldn = 65 dBA	This guideline will generally be applied in the urban ring, freeway, and major highway corridor areas, where ambient levels are such that application of a stricter guideline would be infeasible or inequitable. Significant activity interference will occur outdoors and indoors if windows are partially opened, but available evidence indicates hearing is adequately protected. Noise attenuation measures will be strongly recommended to attain this level.

¹ Building line as used here refers to habitable structures only. It does not include garages, sheds, or recreational accessory buildings.

Given the close proximity to Sam Eig Highway, references made to highways and freeways in the guidelines, and the urban nature of the proposed development design, the 65 dBA Ldn guideline value is chosen as most appropriate for Crown Farm Neighborhoods 3 & 5 development.

Ldn indicates the “Day Night Average” noise level on site. This is the average noise level over a continuous 24-hour period with a 10 dBA penalty added to measurements made during the nighttime hours. This penalty is added to account for increased sensitivity during the nighttime. Nighttime hours are defined as the hours between 10:00 PM and 7:00 AM.

METHODOLOGY

The original report from 2010 included both on-site noise measurements of existing transportation noise sources as well as computerizing modeling such sources to predict noise levels in the future. Noise for the BRT system was based upon the Draft Environmental Impact Statement (DEIS) at the time whose predicted noise levels were input into the traffic noise model to calculate a combined transportation noise impact upon surrounding properties.

To update this report for Neighborhoods 3 & 5, recent traffic counts for Fields Road and Omega Drive were used as a basis for forecasting traffic 20 years into the future. Similarly the “Corridor Cities Transitway-Supplemental Noise and Vibration Technical Memorandum” dated November 2010 was used as a basis for updating the CCT noise impact.

COMPUTER MODELING

Originally, in order to determine the future noise impact upon the property, the Crown Farm Neighborhoods 3 & 5 site was computer modeled using the Federal Highway Administration’s Traffic Noise Model (TNM). This is a three dimensional model capable of determining traffic noise levels based upon roadway characteristics such as width, grade, and speed, traffic volumes, site topography and ground cover, and distances to the roadway. The original model was modified using updated traffic volumes and updated noise levels listed in the Technical Memorandum.

The MDSHA website lists recent traffic counts for various roadways in Montgomery County including Fields Road and Omega Drive for the year 2013. To estimate the future traffic volumes for the year 2035, the 2013 counts were increased by a normally accepted 2% compounded annually for 22 years. There are no such counts for Decoverly, so the original counts, which forecasted to the year 2026 were increased by 2% for an additional 9 years.

Table 1 Traffic Data Used for Modeling

Parameter	Fields Road	Omega Drive	Decoverly Drive
2013 Volume	17,481 vpd (ADT)	14,050 vpd (ADT)	NA
Future 2035 Volume	27,025 vpd (AADT)	21,683 vpd (AADT)	2,629 vpd (ADT)
Speed	35 mph	35 mph	30 mph
% Medium Trucks	2%	2%	3%
% Heavy Trucks	1%	1%	2%

These updated volumes were input into the existing model to determine the future levels.

From the Technical Memorandum the BRT noise level at the nearest receiver location to Neighborhoods 3 & 5 is 58 dBA Ldn at receiver number R19 located approximately 100 feet from the BRT centerline. This data was used to recalibrate the model and resulted in a 6 dBA decrease in BRT noise from the initial DEIS estimates.

The data from the BRT operations was then combined in the future model to determine the overall impact from both traffic and BRT noise sources. The modeled condition is the worst case scenario as it used the highest of the estimated noise levels for the BRT and does not consider the effects of barriers which may be present on the BRT ramp. Other than the change in elevations, this analysis does not consider the effects of the proposed ramp which will take the buses from the I-270 Bridge down to street level.

The future modeling results in absence of buildings were used to delineate the “unmitigated” noise contours. Contours were determined for both the ground level and upper level conditions and are shown on the enclosed site plan (Drawing 1 of the Appendix). Upper levels were calculated at 25 feet above the rough grades in the current site plan to understand the impact on any multistory buildings.

MITIGATION

According to Montgomery County’s noise requirements for residential development, residential sites and buildings impacted by noise levels above 65 dBA Ldn (at any height) require further analysis to determine the mitigation measures necessary to maintain noise levels in outdoor activity areas and indoor living spaces at 65 and 45 dBA Ldn, respectively.

Outdoor Mitigation

From Drawing 1 it can be seen that the proposed building lies within the 65 dBA Ldn noise contour however no designated outdoor activity areas lie within this region.

Indoor Mitigation (Building Shell Analysis)

The multifamily residential building is impacted by noise levels 65 dBA Ldn or greater. These residential buildings can be seen on Drawing 1 of the Appendix.

When a residential structure is impacted by transportation noise levels which exceed a governing threshold (65 dBA Ldn), further analysis (a “building shell analysis”) is required to determine if proposed building structures are capable of reducing exterior noise levels to an acceptable indoor level. A building shell analysis calculates the noise reduction provided by an exterior building partition (i.e. the composite assembly of the wall and any windows and doors) and the resulting indoor noise level when impacted by a specific outdoor noise level. The noise reduction provided by an exterior partition is dependent upon the surface area each building element composing the partition occupies and the STC rating of the individual elements.

STC ratings apply to one individual element. The composite STC rating is the overall STC rating of a partition with multiple elements (e.g. a wall with a window) and is usually controlled by the building element with the lowest individual STC rating. In residential construction, this is almost always the glass (windows and doors); therefore the percentage of the exterior wall occupied by glass becomes critical. This also means the amount of outdoor noise heard inside a unit is primarily dependent on the glass percentage and STC rating, not the wall STC rating.

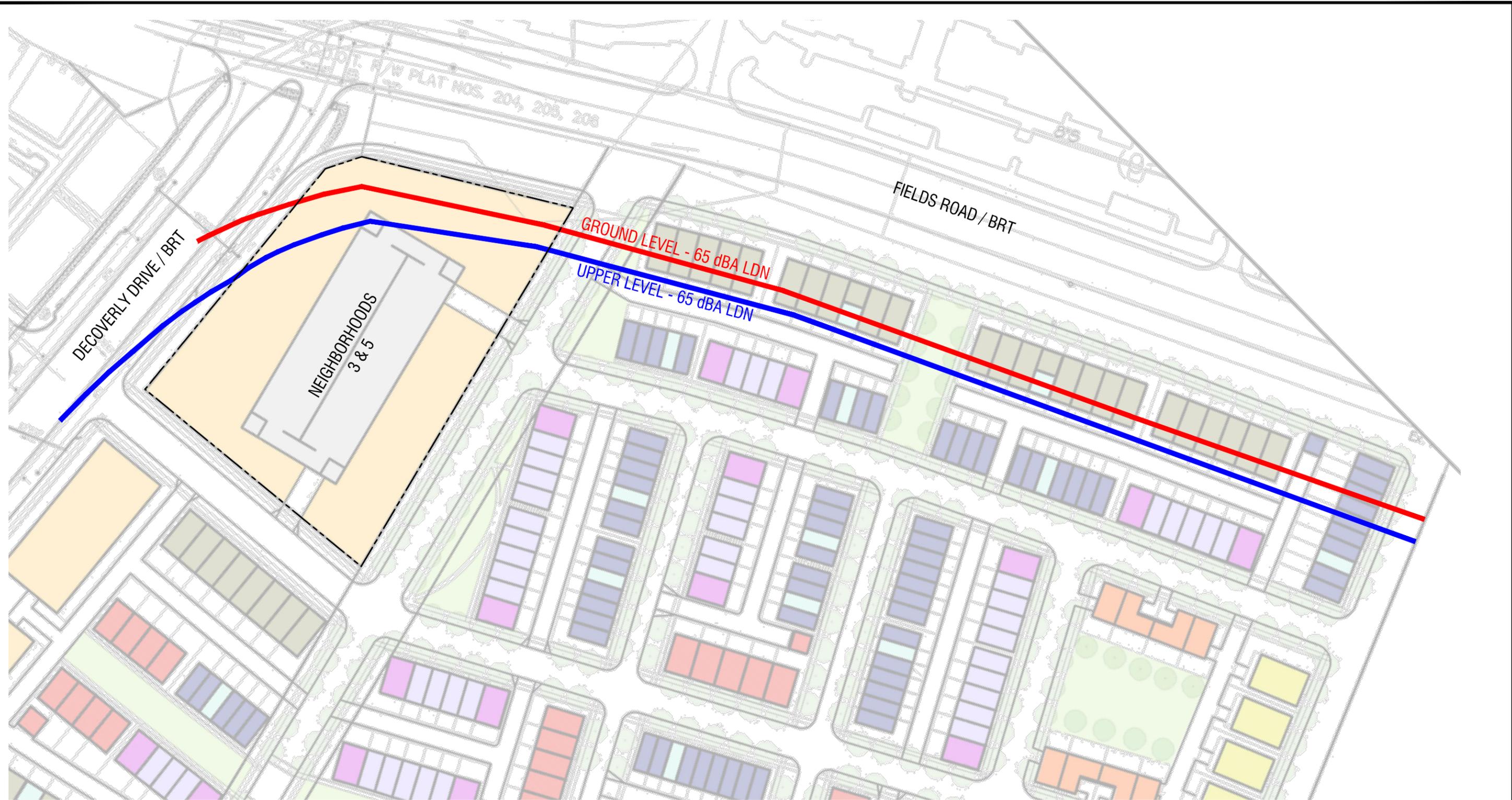
High STC rated windows/doors can be significantly more expensive than standard windows/doors (up to three to four times the cost of standard windows/doors.) Phoenix Noise & Vibration should be contacted early in the design and window/door selection process to provide recommendations to minimize incurred material costs.

CONCLUSIONS

By reviewing the resultant locations of the contours, buildings proposed within the contours will be impacted and may require specified construction techniques to meet required interior noise levels. A building shell analysis of specific architectural plans is required to insure the achievement of the 45 dBA Ldn limit.

Outdoor public spaces will likely be well shielded from the transportation noise sources by buildings and do not require mitigation.

Appendix



PHOENIX
noise & vibration
5216 Chairmans Court Suite 107
Frederick, MD 21703
301-846-4227

CROWN FARM
NEIGHBORHOOD 3 & 5
GROUND & UPPER LEVEL
UNMITIGATED NOISE CONTOURS

DWG. No. 1	PRJ. No. WBK1501	DATE JUN-08-2015
SCALE NOT TO SCALE		DRAWN BY WCC

