

# Western Aberdeen Conceptual Plans

*Smart Growth / Grid Based Design Concepts*





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July 2020



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# 1. Executive Summary

This report provides background and analysis of conceptual plans for three properties in the western Aberdeen planning area. The conceptual plans cover an approximate total area of 394 acres and were developed and influenced by grid-based design, strong towns, smart growth and form-based planning principles.

The conceptual plans address the following properties:

- Locksley Manor, Inc. 198± acres
- Siebert Farms and Adams Property 80± acres
- Presbyterian Homes of Maryland, Inc. 116± acres

Broadly, the conceptual designs draw from the following:

**Smart Growth** promotes efficient and sustainable land development patterns that optimize prior infrastructure investment and discourage dispersed, auto-dependent developments outside city core areas. Smart growth principles support concentrated development areas, balanced by preservation of natural or unique features of the site and consuming less land. Smart growth principles support a mixture and diversity of land uses and housing types and enables higher densities for infill development.

**Grid-based Design** utilizes small compact blocks connected internally within the development, and externally to the larger community development pattern. Grid-based design increases connections within the development, resulting in increased connectivity to other modes of travel, including transit, bicycling, and walking. Grid-based development patterns are based on a uniform block framework that supports connectivity of the development to the larger development pattern in the community, as opposed to inward focused, enclave development pattern typified in traditional suburban neighborhood design. The City of Bastrop, Texas grid-based zoning design principles served as a framework for the design and development of the conceptual plans for the three properties. In summary, the primary grid-based design principles incorporated into the conceptual planning include”

- Character Districts. The generalized land use character of each area was developed based on information for the Aberdeen I-95 Land Use Study, visual surveys, and other relevant sources. The development concepts avoid natural features such as wetlands and floodplains and are compatible with adjacent development patterns and other community defining characteristics in each specific area.
- Development Patterns. The development concepts establish a development pattern based on the property size, shape, topography, adjacent current and planned land use, circulation patterns, and development constraints. All conceptual plans reflect development efficiency resulting from concentrating development intensities and minimizing lot sizes. The conceptual plans establish an integrated small compact block development pattern which reinforces walkability throughout the planned development areas.

- **Block Standards / Street Network.** The conceptual plans define standard compact blocks and provide for an extended street network reinforcing connectivity through the area based on grid zoning principles and standards. The uniform block network provides for increased connections to other modes of travel, including bicycle and pedestrian facilities.

**Form-based Regulation** addresses the relationship between building facades and the public realm, the scale and types of streets, and the form and mass of buildings in relation to one another. Form-based codes designate the appropriate form and scale of buildings and therefore the character of the intended development, rather than specific land use types regulated under conventional zoning. Form-based regulations establish public realm standards including sidewalk, travel lanes, on-street parking, street trees, and street furniture.

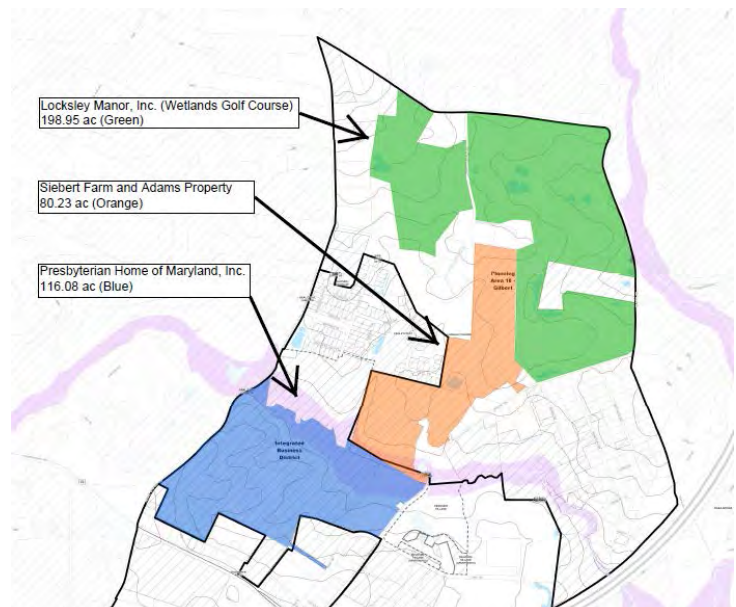
The resulting conceptual plans provide for a connected neighborhood pattern based on compact residential blocks, enhancing walkability in the neighborhood, increasing social interaction, and supporting a healthy community. The conceptual plans intend for alley served residential units, with no on-street parking, reduced width of local roads, and a connected network of bicycle and pedestrian walkways on all residential streets. The reduced local street cross-section promotes fiscal economy based on reduced initial construction costs and long-term operating and maintenance cost avoidance.

## 2. Purpose

Matrix Design Group is under contract with the City of Aberdeen to develop and analyze conceptual plans for three properties in the western Aberdeen planning area as follows:

- Locksley Manor, Inc. (198± acres (Green))
- Siebert Farms / Adams Property 80± acres (Orange)
- Presbyterian Home of Maryland, Inc. 116± acres (Blue)

The conceptual plans were developed based on the broad planning principles established by the smart growth, strong towns, grid-based design, and form-based planning movements. This report is intended to outline the background and approach to the development of the conceptual plans and to identify the planning principles and influences incorporated within each conceptual plan. This report concludes with a summary of how each plan supports and advances smart growth / grid-based design principles to create a walkable distinct community in this part of Aberdeen.





### 3. Background

Smart growth is a broad movement in city planning that began in the 1980's and continues to influence the growth and development of modern cities. The smart growth planning movement emerged in response to the negative impacts of decades of post-World War II suburbanization including traffic congestion, higher energy consumption, accelerated loss of natural resources, and deterioration of the natural environment. Smart growth planning principles promote efficient and sustainable land development patterns that optimize prior infrastructure investment, consume less land and discourage dispersed, automobile-dependent developments at or beyond the urban fringes. The State of Maryland has been at the forefront of the smart growth planning movement since the 1990's. In 1997, the Maryland legislature passed initiatives that have led to Maryland's recognition as a leader in the promotion of smart growth planning initiatives.

In the 2000's smart growth planning principles evolved to reflect grid-based design, favoring small, compact, walkable blocks connected internally within the development, and externally to the larger community. Grid-based design utilizes small compact blocks to increase connections within the development, resulting in increased connectivity to other modes of travel, including transit, bicycling and walking. Smart growth/grid-based design employs design principles to enhance walkability, increasing social interaction and supporting healthy lifestyles. Smart growth/grid-based design results in distinctive active communities built on a sense of place and that are environmentally, financially, and socially sustainable into the future.

### 4. Conceptual Plan Influences

The conceptual plan development was influenced by smart growth, strong towns, and grid-based design principles. These planning principles are based on small compact blocks, enabling walkable neighborhoods connected to a larger multi-modal transportation network. The conceptual plans integrate smart growth principles of fiscal sustainability through reduced street cross-sections, resulting in reductions in initial construction and long-term operating and maintenance costs for the community. Broadly, the conceptual plans incorporate the following smart growth/ grid-based design principles:

**Human-scale / Compatibility.** A fundamental component of smart growth communities is a design focus on the human-scale and the resulting compatibility between land uses. By design, human-scale mixed use centers minimize compatibility impacts associated with traditional suburban development and incorporate thoughtful and effective transitions in land use.

**Mixture of Uses.** Locating residential, commercial, employment and open space uses in proximity to one another improves access to alternative modes of travel such as bicycling and walking. Mixed-use development creates higher concentrations of people, avoiding automobile dominant sprawl development comprised of separate disconnected developments. Mixed-use development increases economic development opportunities and supports the use of public transit by connecting higher density/intensity development with public transit facilities and routes.

**Compact Development.** Smart growth planning principles support development designs that concentrate building and development areas, resulting in the preservation of natural and unique features of an area. Compact

development designs use land and resources more efficiently and result in a reduced service delivery costs for core municipal services such as water, sewer, and public safety.

**Walkable Neighborhoods.** A key component of smart growth communities is walkable neighborhoods where goods, services, and employment are located within a walkable distance from housing. Walkable communities provide alternatives to driving a car, resulting in reductions in traffic congestion and air pollution.

**Infill Development / Growth Areas.** Infill development and increased densities result in the efficient utilization of land. Coordinating growth areas with existing infrastructure and services results in a sustainable, efficient and fiscally responsible use of resources.

**Increasing Transportation Choice.** Smart growth communities implement effective transportation planning principles including integrated transportation/planning coordination, creation of redundant, resilient and connected road networks, and ensuring connectivity between pedestrian, bicycle, transit nodes and routes.

**Fiscal Sustainability.** A key component of smart growth communities is financial sustainability. Financial sustainability involves consideration of the complete financial cost, including capital costs (initial cost of infrastructure) and operating and maintenance costs (on-going services and maintenance of facility or service). This principle of smart growth is intended to ensure that growth and development is sustainable and is not subsidized over the long-term by current residences or businesses.


## **5. Bastrop, Texas Building Block Code.**

The City of Bastrop Texas has adopted a Building Block zoning code which incorporates smart growth and grid-based design principles outlined above in this report. The conceptual plans utilized generalized guidance and design concepts from the Bastrop Building Block zoning code. The City of Aberdeen Development Code provides generalized guidance and broad development standards based on smart growth principles, although not to the specificity and detail as the Bastrop Building Block zoning code. A future amendment to the City of Aberdeen Development Code should be considered to fully implement smart growth/grid-based design principles desired by the community.

The Bastrop Building Block zoning code is intended to promote fiscally sustainable, geographically sensitive, and walkable communities. The Bastrop Building Block zoning code focuses on the development of complete neighborhoods, not subdivisions and provides for interconnected networks of streets designed to disperse traffic and reduce the automobile trips. The Bastrop Building Block zoning code promotes development based on small compact block lengths, enhancing walkability within the community.

Non grid-based design results in subdivisions being designed and built as enclaves with an internal focus, rather than designed to connect and integrate with a logical and uniform block design and development pattern for the larger community. The Bastrop Building Block Code is comprised of three primary design components which were integrated into the conceptual plan development for the three properties:





**Character Districts.** The generalized land use character of each area was developed based on information for the Aberdeen I-95 Land Use Study, visual surveys, and other relevant sources.

The development concepts avoid natural features such as wetlands and floodplains and are compatible with adjacent development patterns and other community defining characteristics in each specific area.

**Development Patterns.** The development concepts establish a development pattern based on the property size, shape, topography, adjacent current and planned land use, circulation patterns, and development constraints. All conceptual plans reflect development efficiency resulting from concentrating development intensities and minimizing lot sizes. The conceptual plans establish an integrated small compact block development pattern which reinforces walkability throughout the planned development areas. The development pattern is based on a uniform block framework that supports connectivity of the development to the larger development pattern in the community, as opposed to inward focused, enclave development pattern typified in traditional suburban neighborhood design.

**Block Standards / Street Network.** The conceptual plans define standard compact blocks and provide for an extended street network reinforcing connectivity through the area based on grid zoning principles and standards. The uniform block network provides for increased connections to other modes of travel, including bicycle and pedestrian facilities.

## 6. Form-based Zoning Codes

In contrast to conventional zoning, form-based zoning codes use physical form, rather than separation of uses as the organizing principle for the code. Conventional zoning focuses on specific allowable uses and the control of development intensity through such standards as floor area ratio, dwellings per acre, setbacks, and parking ratios.

Form-based regulation address the relationship between building facades and the public realm, the scale and types of blocks and streets, and the form and mass of buildings in relation to one another. A form-based code is generally comprised to the following elements/regulations:

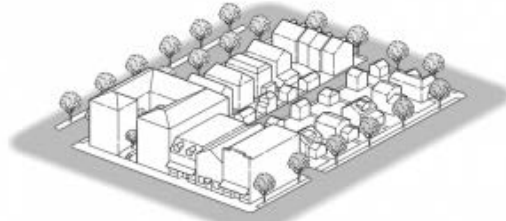
- **Development Character.** A form-based code designates the appropriate form and scale, and therefore the character of the intended development, rather than specific land-use types.
- **Regulating Plan.** A form-based code includes a Regulating Plan designating the intended locations where different building form standards apply.
- **Building Standards.** Form-based regulations establish Building Standards including street and building type, or mix of types, build-to-lines, number of floors, and percentage of built site frontage specified.
- **Public Realm Standards.** Form-based regulations establish public realm standards including sidewalk, travel lanes, on-street parking, street trees, and street furniture.

**Conventional Zoning**

Uses, density, floor area ratio,  
Setbacks, parking requirements,  
maximum building height

**Form-based Zoning**

Street and building types,  
build-to-lines, number of  
floors, percent of built site.



Adapted from information on [formbasedcodes.org](https://formbasedcodes.org), accessed on 06/22/2020. Link below.

<https://formbasedcodes.org/definition/>

## **7. Grid-based Conceptual Plans**

Utilizing the above influences, conceptual plans were developed for the three properties. This section provides an overview of each conceptual plan and identifies and summarizes the smart growth/grid-based design principles reflected in each of the plan.

### **Siebert Farms / Adams Properties / Locksley Manor**

This combined 394-acre property includes the Siebert Farms / Adams Properties and Locksley Manor. Consistent with smart growth planning principles, the conceptual plan for this property provides for a range of housing types including detached single-family, two-family (duplex units), attached single-family villas, and multi-family apartments. The detached single-family residential units are provided on lot sizes ranging in size from 5,000 to 10,000 square feet in size. Attached single-family residential villas are 3,000 square feet in size. Table 1 below summarizes the type and number of proposed residential units, overall density, and percentage of open space reflected on the conceptual plan.



Table 1 - Siebert/Adams/ Locksley Manor Properties Conceptual Plan Summary		
Housing Type	Lot Size / Unit Size	Total Lots / Units
Detached Single-family	100' X 100' (10,000 sq. ft.)	10
Detached Single-family	70' X 100' (7,000 sq. ft.)	174
Detached Single-family	60' X 100' (6,000 sq. ft.)	98
Detached Single-family	50' X 100' (5,000 sq. ft.)	191
Duplexes	60' X 100' (6,000 sq. ft.)	100
Attached Residential Villas	50' X 60' (3,000 sq. ft.)	112
Multi-family Apartments	48 units X 11 Bldgs	528
	Total Units	1,213
Overall Density		
Percentage of Open Space		
4.26 du/ac	27.5%	

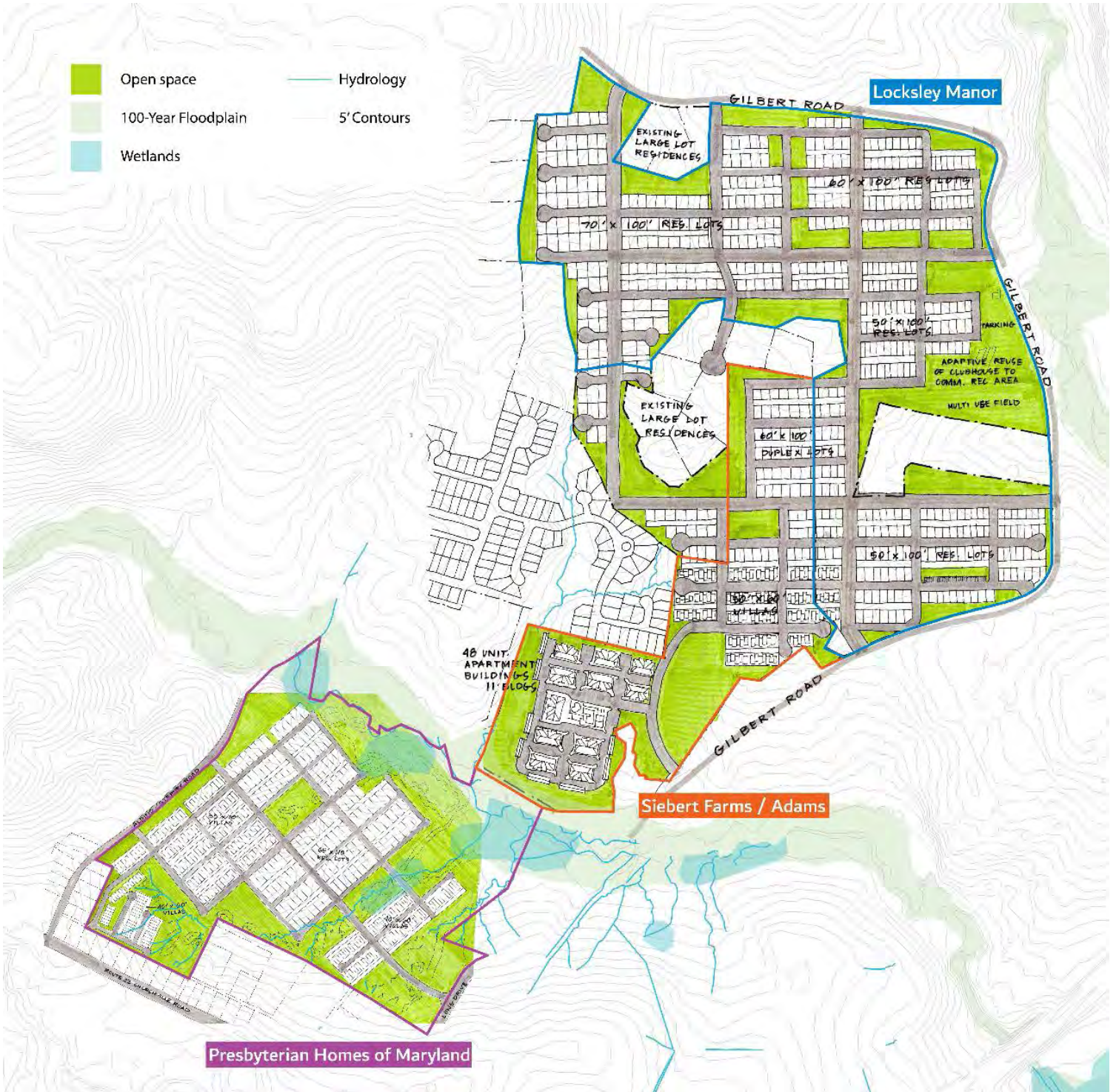
### Presbyterian Home of Maryland, Inc.

This 116-acre property provides for a range of residential housing types including detached single-family homes and attached residential villas. The detached single-family lots are 7,150 square feet in size and the attached residential villas range in size from 2,400 to 3,850 square feet. Table 2 below summarizes the type and number of proposed residential units, overall density, and percentage of open space reflected on the conceptual plan.

Table 2 - Presbyterian Homes of Maryland Conceptual Plan Summary		
Housing Type	Lot Size / Unit Size	Total Lots / Units
Detached single-family	65' X 110' (7,150 sq. ft.)	139
Attached Villas	40' X 60' (2,400 sq. ft.)	103
Attached Villas	55' X 70' (3,850 sq. ft.)	105
	Total Units	347
Overall Density		
Percentage of Open Space		
2.99 du/ac	50%	

# Western Aberdeen Conceptual Plans

## Smart Growth / Grid Based Design Concepts



**Figure 1** Combined Conceptual Plan



## 8. Smart Growth/Grid-based Design Analysis

The smart growth/grid design principles reflected on the conceptual plans include:

- Small, compact, and uniform block lengths enhance connectivity within the planned development and provides connections, where appropriate, to adjacent development and the larger community development pattern.
- Small compact blocks increase connections to bicycle and pedestrian facilities within the development, resulting in walkable neighborhoods, encouraging increased bicycle and pedestrian activity.
- Variety in lot/unit sizes and variety in residential housing types provide for housing choice and enhances the long-term stability of the neighborhood.
- The development pattern integrates alley access to all residential properties, enabling vehicular parking in rear yards and eliminating on-street parking. Eliminating on-street parking enables reduction of street widths and increasing bicycle and pedestrian facilities to serve the development.
- Concentrating development intensities on smaller lots provides for land use efficiency and promotes the preservation of larger open space areas for active and passive recreational uses.
- Reduced street widths result in lower initial infrastructure construction costs and lower operating and maintenance costs over the long-term, resulting in fiscally sustainable development.
- Natural areas, including wetlands and floodplains, are preserved and protected for sustainable future use and enjoyment.
- Open space areas are used as a land use transition to existing larger lot residential properties, resulting in compatible development within the planning area.
- Higher density residential areas are in proximity to higher volume streets designed to accommodate the increased traffic volumes associated with the higher density development.
- Higher density residential areas are in proximity to planned open space and active recreational areas. The Wetlands Golf Course clubhouse buildings and site provide an opportunity for adaptive reuse as a community / recreation center including multi-use fields, bicycle and pedestrian facilities, and parking area.
- Open space has been designed to traverse centrally through the developments, providing local recreation opportunities and connectivity with the larger open space/recreational areas within the development.

## 9. Other Grid-based Development Principles – Reduced Street Widths

Other grid-based development principles not reflected on the conceptual plans include reduced street widths, resulting in a more financially sustainable development based on the reduced long-term operating and maintenance costs associated with the street width reduction. As previously stated, the inclusion of alleys eliminates on-street parking, which supports the street width reduction and enables enhancement of bicycle and pedestrian facilities in the neighborhood.

Street widths must be adequate to accommodate vehicular travel, public safety vehicle access, and access for sanitation and snow removal trucks, but can be reduced from standard right-of-way widths to achieve grid-based design principles. The conceptual designs were reviewed by the Public Works Department and have been revised to incorporate appropriate collector streets with wider rights-of-way to serve as the primary routes in and out of the planned neighborhood. The conceptual designs have also been revised to incorporate sufficient radius and use of cul-de-sacs to allow larger vehicles to navigate and turn around throughout the planned development.

Generally, the conceptual plans depict developments that are served by collector streets 80 feet in width, and local streets 50 feet in width. As most of the planned development is served by alleys, on-street parking can be prohibited on most streets and reduce the overall street widths from what is depicted on the concepts to 60-foot collector roadways and 40-foot local residential streets. Bicycle and pedestrian facilities are planned on all streets to provide for a connected multi-modal neighborhood. These reduced street widths can still accommodate sufficient travel lane width for residents and service vehicle needs, while reducing the initial construction and long-term maintenance costs to the City. The potential reduced street cross-sections incorporate street tree separation from vehicular travel lanes and are depicted on Figures 2 and 3.

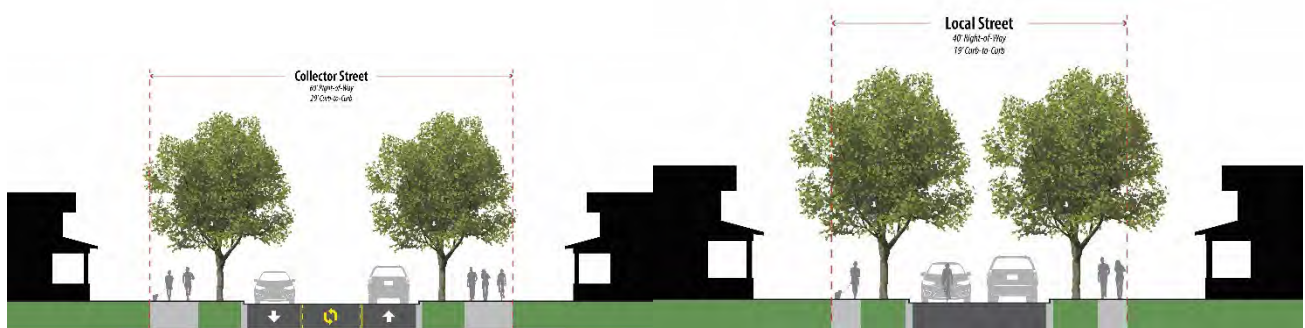


Figure 2 Collector Street Cross-section

Figure 3 Collector Street Cross-section

Table 3 provides recommended street design standards to be employed in the planning area to reduce street widths to reduce initial construction and long-term operating and maintenance costs, consistent with smart growth/grid-based design. The street design standards were derived from the National Association of City Transportation Officials (NATCO) Urban Street Design Guide.



**TABLE 3 - STREET DESIGN STANDARDS**

Street Design Element	Purpose	Standard
Minimum Lane Width	Minimizing lane widths encourages cars to drive slower, increasing safety and minimizing the distance pedestrians have to cross the street	10 Feet
Curb Offset	Limiting curb offsets decreases the effective lane width and discourages speeding	N/A
Clear Zone (40 mpg or less)	Clear zones provide for street trees, café seating and other amenities that contribute to a comfortable pedestrian environment	No minimum setback requirements for clear zone
Minimum Curb Radius	Limiting the curb radius decreases the turning speed of cars at the intersection and increase the safety of pedestrians and bicyclists	10 feet recommended, not to exceed 15 feet
Design Speed	Design speed at or lower than posted speed limit discourages speeding	Design speed should equal posted speed
On-street Parking	On-street parking provides a buffer between people walking and cars on the travel lanes, creating a comfortable environment for the pedestrian.	On-street parking eliminated based on use of alleys and rear yard parking
Minimum Parking Lane Width	Narrower on-street parking widths, or elimination of on-street parking altogether creates space to accommodate bicycle and pedestrian facilities and decrease the distance to cross a street	On-street parking eliminated based on use of alleys and rear yard parking. Where permitted, parking lane width limited to 8 feet
Street Trees	Street Trees create a welcoming shaded environment, provide a buffer from car traffic, and reduces speeding	Street trees required on all street frontages

Source: National Association of City Transportation Officials (NATCO) Urban Street Design Guide.

The Public Works Department raises the issue of maintenance with the proposed alleyways. Additionally, with larger trash trucks being purchased, alleyways do not always provide the necessary line-of-sight to maintain services and can become cluttered with vehicles and debris. Given the lack of allowed parking on streets, refuse collection is intended to be street side, not served from alleyways. Alternatively, alleys are intended to serve only

as access to private parking garages/areas on private residential lots and can be maintained through appropriate common area delineations and maintenance responsibilities for the neighborhood association. Alleyways are intended to be designed during the Preliminary Plat design stage and could incorporate sustainable building and design alternatives to asphalt such as pervious stabilized concrete. Alleys are depicted on the conceptual plans to be 20' wide and can accommodate private vehicle access to rear loaded garages and parking areas.

Parking for residential units is intended to be provided on-site in covered garages accessed from rear alleyways and provided on-site from uncovered spaces on driveways on the front and rear yards. It is intended that a minimum of four parking stalls will be provided, consistent with comparable detached single-family residential product in the market. Adequate parking will need to be addressed as part of the Preliminary Plat design process when residential product is defined. Residential product will need to be designed to accommodate rear access garage spaces in parallel or tandem orientations.

Consolidated trash corrals should be incorporated during the Preliminary Plat process and provide corrals in suitable areas providing ease of access to residents and refuse collection providers. It is intended that the Villas housing area will provide common areas for parking, mail delivery and refuse collection much like an apartment complex. Refuse collection areas are intended to be designed with architecturally compatible treatment in terms of design, material, and color and included metal gates concealing visibility of the refuse containers. The location and design of refuse contains will be established as part of the Preliminary Plat design process.

The conceptual designs show open space areas which are intended to integrate storm water detention facilities to accommodate site drainage. Additional areas can be added following detailed grading and drainage analysis and planning.

Other grid-based design principles not reflected on the conceptual plans include form-based zoning design elements and enhanced public and private realm development standards. A future amendment to the Aberdeen Development Code could develop and adopt building block design standards / form-based standards to fully implement smart growth/grid-based design principles.





**Matrix**

