

# Crystal City Plan, Draft 1.1:

## Updated Text for Select Narratives on Housing and Water, Sanitary and Stormwater Infrastructure (Draft – 2009-09-21)

### **3.9.1 Housing** (Original text on page 94 of the Draft Plan 1.1, with additions)

Increasing the quantity, availability, and affordability of housing in Crystal City is a central tenet of the Master Plan. Recent forecasts show demand for housing in the Planning Area could increase 95% by 2030, putting pressure on an already tight housing market. Under the Master Plan, a proposed increase in residential GFA of just over 70% by 2050 should help to keep pace with much of this demand, thereby channeling significant residential development into an area already served by transit, which will be supplemented with new surface transit technology. While an overall increased inventory of housing is a key goal of the plan, an increased diversity in housing types and price points, including affordable housing, will be necessary to achieve the vision for Crystal City as a complete community catering to the needs of all demographics.

Within the Planning Area, current housing types are exclusively multi-family flats, consisting of condominiums and rental apartments. Census data for 2000 indicate the percentage of households with one or two occupants constituted over 90% of all households in Crystal City, a number unlikely to have changed much since that time. This pattern and research on existing inventories suggest that most units in Crystal City are either one or two bedrooms in size. Accommodating larger families will be a challenge going forward, since providing units with three bedrooms or more has not been the norm. Existing residential buildings are typically 12 to 18 stories in height, while some new buildings introduced on the west side are lower in height (either built or approved site plans). The size of residential buildings proposed in the Master Plan ranges from three-story buildings with relatively small footprints located on the western edge of the planning area to residential towers located in the core neighborhoods of the east side. With a focus on increasing the range of residential building types and corresponding mix of bedroom numbers per unit, the plan will be better suited to encourage the development of a more diverse mix of housing types, although additional tools may be needed to achieve the vision.

~~Expectations and parameters for affordability  
(Text development in progress)~~

As outlined in the Policy Directives pertaining to housing, ensuring the provision of affordable housing within Crystal City is a critical objective of the Plan. Providing affordable opportunities for those who work in Crystal City to be able to live there will also go a long way towards advancing the sustainable objectives of the plan. Ideally, with new and redevelopment projects, affordable housing units will be achieved on-site or nearby off-site through the application of the Affordable Dwelling Unit (ADU) requirements within the Zoning Ordinance, in addition to recommended special provisions that would pertain to projects exceeding the planned base density. As a long-term planning goal, this Plan establishes a range of achieving between 550 and 1,200 committed affordable housing units in the Crystal City Planning Area by 2050, depending upon how much of the affordable housing contribution required by the Ordinance is achieved in the way of units versus cash contributions. More specifics details on the recommended strategies and tools aimed to help achieve the above goals are detailed in Chapter 4, Implementation.

## **3.10 Water, Sanitary and Stormwater Infrastructure**

(proposed new text to be inserted into page 102 of Draft Plan 1.1)

Environmental quality is a critical element of the overall quality of life for any community, as it is for Crystal City. A variety of natural and manmade factors can contribute to an area's level of environmental quality, which can help shape, and be shaped by, existing and future development in Crystal City. The design, maintenance, and operations of the water, sanitary, and stormwater infrastructure serving the Crystal City area today and in the future will have a significant impact on the local environmental quality conditions. In aggregate, future redevelopment in Crystal City provides significant opportunities to improve the quality of the natural environment in an around the Crystal City area.

The further concentration of Crystal City's already compact growth will continue to help reduce regional environmental impacts in a number of ways, by consuming relatively less land, providing opportunities for transit or non-motorized travel, and the like. Much of Crystal City was developed before modern-day local environmental statutes that address water quality and quantity issues (such as the Chesapeake Bay Preservation Ordinance and Stormwater Detention Ordinance) took effect. This means that techniques that are commonplace in new construction and redevelopment projects, including enhanced landscaping and managed stormwater runoff for instance, should create positive environmental benefits over time.

Several of the County's Comprehensive Plan documents are relevant to informing future decisions and ongoing policy and programs relating to these environmental infrastructure elements. The Water Distribution System Master Plan (1992), Sanitary Sewer System Master Plan (2002), Stormwater Master Plan (1996), and Chesapeake Bay Preservation Ordinance and Plan (2003 and 2001, respectively) (which is supported by the County's 2001 Watershed Management Plan) will all continue to play a major role in guiding current and future decisions involving these systems.

### **Water System Infrastructure**

Water service to the Crystal City Planning Area is provided the County's Water, Sewer, Streets Division, and the area falls within the system's Gravity Three pressure zone or service area. Based on existing conditions and trends, overall the water system should have adequate supply and capacity to meet future demands. Over time, it's anticipated that the system could require that some water mains be updated, on an as needed basis. As future redevelopment occurs, it may be appropriate for these new projects to provide upgraded mains to service the buildings where existing pipes would otherwise be undersized. Recent experience generally has shown that with new building construction, more efficient technologies and water saving fixtures are having substantial positive effects on reducing any increased demand from new construction and corresponding additional residents, workers, and visitors. As a result, water demand on the County's system has remained relatively level or only increased slightly over the past 17 to 18 years.

### **Sanitary Sewer System Infrastructure**

Sanitary sewer service is available throughout the Crystal City Planning Area and is provided by the County's Water, Sewer, & Streets Bureau. The Potomac Interceptor is the major sewer line and sewer shed serving the Crystal City area. Currently, the existing sewer pipes near Crystal City are nearing or at full capacity, and may present potential long-term capacity issues. The nearing capacity of segments of the infrastructure network is not unique to Crystal City and may occur throughout the County as it grows. For example, in 2009, the County Board approved implementation of the Potomac Interceptor sewer system replacement project that will double the capacity of the existing system serving Rosslyn. This, in addition to other projects in the future, will allow Arlington to support future growth and better manage weather-related events, such as larger-than-normal flows that can cause sewer back-ups.

Sanitary waste is ultimately piped to the County's Wastewater Treatment Plant, located along S. Glebe Road, and into Four Mile Run after it's been treated. The increased designed capacity of 40+ million gallons per day was planned in 2001 to accommodate anticipated growth in the County beyond 2020. Increased awareness and water saving devices/appliances have helped reduce anticipated increased volume even with additional growth. With the completion of current upgrade project, the plant has sufficient capacity to accommodate growth in the County beyond 2020 based on current regulatory requirements and development of Crystal City, Pentagon City, Roslyn-Ballston corridor and Columbia Pike. That said, while capacity is not the issue, it is likely new environmental regulations may necessitate additional construction or improvements at the plant (as well as at other wastewater treatment plants) before 2020 even if there were no new development in the County.

### **Stormwater Infrastructure**

The Crystal City Planning Area falls within the boundaries of three stormwater watersheds in the County. Most of Crystal City is included within the Roaches Run watershed (191.6 acres), while some of the area is within the Virginia Highlands watershed (62.4 acres) and just the southern tip of the planning area is within the Four Mile Run, Lower Mainstem watershed (5.4 acres). The amount of existing impervious surface in Crystal City as of 2009 is estimated at 188.6 acres, or approximately 72.7% of the total planning area. While the exact quantity of impervious surface in Crystal City through buildout of this plan is impossible to predict with certainty, an order of magnitude estimate of 190.7 acres, or 73.5% of the planning area has been arrived at based on the Illustrative Concept Plan scenario. Based on these assumptions, impervious surface in Crystal City is generally expected to remain about the same or increase slightly as a result of plan buildout.

With the aim of improving the environmental quality in and around Crystal City, consideration should be given to a goal of achieving, through redevelopment, an overall 10% decrease in the amount of impervious surface in Crystal City, when compared with its existing condition, through direct impervious surface reductions, use of permeable materials, and/or stormwater treatment for equivalent impervious areas. The 10 percent net reduction standard is proposed because it parallels existing pollutant reduction standards for redevelopment at the parcel level. Recognizing that each site and/or block has its unique qualities, opportunities, and constraints, and that streetscape/block level stormwater management is often more challenging than at the parcel level, some flexibility is needed when this numerical goal cannot be met exactly on a case-by-case basis. The 10% net reduction goal should be viewed for Crystal City as a whole. In the spirit of flexibility and encouraging creative solutions in a complex urban environment, engineered pervious surface techniques such as green roofs and permeable paving can be used to help meet impervious surface reduction goals. Additionally,

redevelopment should provide opportunities for streetscape retrofits, such as bio-swales and stormwater tree pits – these strategies should be explored, potentially as part of public-private partnerships through the site development process.

Currently, the Commonwealth of Virginia is in the process of updating their Statewide Stormwater Management Regulations, with an anticipated implementation date of 2011. Based on the draft for public comment released in July 2009, these standards will be more stringent than current controls for stormwater quality and quantity. At this time, it is recommended that these standards guide the stormwater planning for the area, rather than coming up with standards outside of this regulatory process.